

Request - Jan Delavan

Access DS# 131232

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Applicant's Full Name: Sakula Corp Examiner #: 74141 Date: 8/27/04  
Unit: 1416 Phone Number: 30 206 22 Serial Number: 10/03/225  
Mail Box and Bldg/Room Location: 4470 Rm 4445 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched.  
Include the selected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or  
nature of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if  
known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Rest Breaking Composition + use

Author (please provide full names):

MCDONALD, BRIAN P. et al

Priority Filing Date: 7/3/2000 371 of PCT/EP00/06234

Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the  
sequence serial number.

Please search for a composition containing  
① Organic Nitrogen Compd as in Cl 1.

+  
an Inorganic nitrate

+  
a Surfactant

cls 1-17 Composites  
18-26 Method of use

Thank you.

FOR USER ONLY

Author: Jan  
Patent #: 22504

Classification: 919

Classification: 919

Classification: 919

Classification: 919

Classification: 919

Classification: 919

Classification: 919

Type of Search

NA Sequence (#)

AA Sequence (#)

Structure (#)

Bibliographic

Litigation

Fulltext

Patent Family

Other

Vendors and cost where applicable

STN

Dialog

Questel/Orbit

Dr Link

Lexis/Nexis

Sequence Systems

WWW/Internet

Other (specify)

=&gt; d his

(FILE 'HOME' ENTERED AT 13:49:36 ON 09 SEP 2004)  
SET COST OFF

L1 FILE 'HCAPLUS' ENTERED AT 13:49:52 ON 09 SEP 2004  
1 S (WO2000-EP6234 OR EP99-202342)/AP,PRN  
SEL RN

FILE 'REGISTRY' ENTERED AT 13:50:38 ON 09 SEP 2004

L2 9 S E1-E9  
L3 5 S (POTASSIUM NITRATE OR CALCIUM NITRATE OR AMMONIUM NITRATE OR  
L4 2 S 6484-52-2/CRN AND ZN/ELS  
L5 1 S L4 NOT SZNSC/ES  
L6 7 S L2 AND HNO3  
L7 8 S L3,L5,L6  
L8 1 S 7697-37-2  
L9 12265 S 7697-37-2/CRN  
L10 221 S L9 AND K/ELS  
L11 3 S L10 AND 2/NC  
L12 141 S L9 AND CA/ELS  
L13 4 S L12 AND 2/NC  
L14 2 S L13 NOT GLYCINATO  
L15 404 S L9 AND H3N  
L16 15 S L15 AND 2/NC  
L17 10 S L16 NOT (D/ELS OR MNS/CI OR 15N)  
L18 7 S L15 AND ZN/ELS  
L19 6 S L18 NOT S/ELS  
L20 127 S CH4N2O AND L9  
L21 127 S 57-13-6/CRN AND L20  
L22 54 S L21 AND NR>=1  
L23 73 S L21 NOT L22  
L24 23 S L23 AND L10,L12,L15  
L25 6 S L23 AND ZN/ELS  
L26 13 S L24 NOT (CYANO? OR UNSPECIFIED OR NA/ELS OR P/ELS OR FE/ELS O  
L27 45 S L23 NOT L24-L26  
L28 28 S L27 AND 2-3/NC  
L29 25 S L28 NOT (GUANIDINE OR ETHANEDIOATE OR P/ELS)  
L30 17 S L27 NOT L28  
L31 12 S L30 NOT (CELLULOSE OR GUANIDINE OR S/ELS OR P/ELS OR MAN/CI)  
L32 77 S L7,L8,L11,L14,L17,L19,L25,L26,L29,L31

FILE 'HCAPLUS' ENTERED AT 14:08:03 ON 09 SEP 2004

L33 81990 S L32  
L34 38667 S (POTASSIUM OR CALCIUM OR AMMONIUM OR CALCIUM AMMONIUM OR UREA  
L35 26227 S KNO3 OR CANO3 OR NH3NO3  
L36 106808 S L33-L35  
L37 1953 S L36 AND SURFACTANT  
L38 14 S L36 AND ALKOXYLAT? (L)AMINE  
L39 4 S L36 AND QUAT? AMMON? (L)ALKOXYLAT?  
L40 11 S L36 AND (ARMOBLEN OR ARMOBREAK OR BEROL)  
E AMINE/CW  
L41 7 S E3,E4 (L) ALKOXYLAT? AND L36  
E QUAT AMMON/CT  
L42 2 S E10 (L) ALKOXYLAT? AND L36  
L43 23 S L38-L42  
L44 12 S L43 AND (AGR? OR FERTIL? OR SOIL?)/SC,SX  
L45 11 S L43 AND AGR/RL  
E AMIDE/CW  
L46 3 S E3,E4 (L) ALKOXYLAT? AND L36  
L47 25 S L43-L46  
L48 12 S L47 AND (AGR? OR FERTIL? OR SOIL? OR PLANT?)/SC,SX  
L49 11 S L47 AND AGR/RL

L50 12 S L48,L49  
 L51 691 S L36 AND QUAT? AMMON?  
 E QUATERNARY AMMON/CT  
 L52 1605 S E7+OLD,NT,PFT,RT AND L36  
 L53 3439 S L51,L52,L37  
 L54 147 S L53 AND AGR/RL  
 L55 354 S L53 AND (SOIL? OR PLANT? OR FERTIL? OR AGR?)/SC,SX  
 L56 361 S L54,L55,L50  
 L57 21 S L56 AND ?CHOLINE?  
 L58 7 S L56 AND CHOLINE CHLORIDE  
 L59 0 S L56 AND CHOLINE()CL  
 L60 1 S L56 AND 2 HYDROXYETHYL TRIMETHYLAMMONIUM  
 L61 0 S L56 AND 2 HYDROXYETHYL TRIMETHYL AMMONIUM  
 L62 0 S L56 AND 2 HYDROXY ETHYL TRIMETHYL AMMONIUM  
 L63 0 S L56 AND 2 HYDROXY ETHYL TRIMETHYLAMMONIUM  
 L64 0 S L56 AND 2 HYDROXY ETHYLTRIMETHYLAMMONIUM

FILE 'REGISTRY' ENTERED AT 14:18:04 ON 09 SEP 2004

L65 2 S 62-49-7 OR 67-48-1  
 L66 1010 S 62-49-7/CRN

FILE 'HCAPLUS' ENTERED AT 14:19:17 ON 09 SEP 2004

L67 57 S L65,L66 AND L53  
 L68 10 S L56 AND L67  
 L69 24 S L57,L58,L60,L68  
 L70 47 S L67 NOT L69  
 SEL DN AN L69 2 7-13 18  
 L71 15 S L69 NOT E1-E27  
 L72 10 S L50 NOT L69  
 L73 25 S L71,L72  
 E MACDONALD B/AU  
 L74 34 S E3,E14  
 L75 7 S E40,E47  
 E MAC DONALD B/AU  
 L76 3 S E3  
 E WORKEL H/AU  
 L77 8 S E4,E5  
 L78 1 S L74-L77 AND L53  
 L79 8 S (AKZO? OR NOBEL?)/PA,CS AND L53  
 SEL DN AN 2 3 6 7 8  
 L80 3 S L79 NOT E1-E15  
 L81 25 S L73,L78,L80  
 L82 7 S L81 AND REST BREAK?  
 L83 9 S L81 AND BREAK?  
 L84 9 S L82,L83  
 L85 25 S L81,L84  
 L86 18 S L85 AND (PD<=20000703 OR PRD<=20000703 OR AD<=20000703)  
 L87 7 S L85 NOT L86  
 L88 92 S L53 AND ?ETHYLENEDIAMIN?  
 L89 98 S L53 AND ?ALKYLAMMON?  
 L90 189 S L88,L89  
 L91 159 S L90 AND (PD<=20000703 OR PRD<=20000703 OR AD<=20000703)  
 L92 3 S L91 AND L56  
 L93 2 S L92 NOT 47/SC  
 L94 20 S L86,L93  
 L95 156 S L91 NOT L92  
 L96 27 S L94,L85-L87  
 SEL HIT RN

FILE 'REGISTRY' ENTERED AT 14:31:32 ON 09 SEP 2004

L97 14 S E16-E29

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 14:32:00 ON 09 SEP 2004  
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FILE COVERS 1907 - 9 Sep 2004 VOL 141 ISS 11  
 FILE LAST UPDATED: 8 Sep 2004 (20040908/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L96 ANSWER 1 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:387212 HCAPLUS  
 DN 140:370235  
 ED Entered STN: 13 May 2004  
 TI Pesticide formulations containing **alkoxylated amines**  
 IN Scherl, Franz Xaver; Hess, Joachim; Zerrer, Ralf  
 PA Clariant GmbH, Germany  
 SO PCT Int. Appl., 26 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA German  
 IC ICM A01N025-30  
 ICS A01N057-20  
 CC 5-4 (**Agrochemical** Bioregulators)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004039153	A1	20040513	WO 2003-EP11697	20031022
	W: BR, CA, CN, ID, IL, JP, KR, MX, SG, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
	DE 10250551	A1	20040519	DE 2002-10250551	20021030
PRAI	DE 2002-10250551	A	20021030		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	WO 2004039153	ICM	A01N025-30
		ICS	A01N057-20
	DE 10250551	ECLA	A01N025/30; A01N057/20
AB	The invention relates to compns. containing one or several pesticides, such as glyphosate, and one or several <b>alkoxylated amines</b> (Markush given). The inventive compns. are characterized by an improved effectiveness while being economical, easy to handle, and well tolerated by humans and the environment.		
ST	pesticide formulation <b>alkoxylated amine</b>		
IT	<b>Amines</b> , biological studies		
	RL: <b>AGR (Agricultural use)</b> ; MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)		

(alkoxylated; pesticide formulations containing  
alkoxylated amines)

IT Pesticide formulations  
(formulations containing alkoxylated amines)

IT Herbicides  
(glyphosate formulations containing alkoxylated amines)

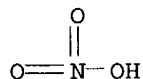
IT 1071-83-6, Glyphosate 1071-83-6D, Glyphosate, salts 87753-51-3  
153365-04-9  
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)  
(formulations containing alkoxylated amines)

IT 1762-95-4, Ammonium thiocyanate 6484-52-2, Ammonium  
nitrate, uses 7783-20-2, Ammonium sulfate, uses 10124-31-9,  
Ammonium phosphate 12125-02-9, Ammonium chloride, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(pesticide formulations containing alkoxylated amines  
and)

IT 6484-52-2, Ammonium nitrate, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(pesticide formulations containing alkoxylated amines  
and)

RN 6484-52-2 HCAPLUS

CN Nitric acid ammonium salt (8CI, 9CI) (CA INDEX NAME)



● NH<sub>3</sub>

L96 ANSWER 2 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:833372 HCAPLUS

DN 140:106899

ED Entered STN: 24 Oct 2003

TI Alternative **rest-breaking** agents evaluated on 'Golden  
Delicious' apple trees

AU North, M.

CS The Fruit, Vine and Wine Research Institute of the Agricultural Research  
Council, ARC Infruitec-Nietvoorbij, Stellenbosch, S. Afr.

SO South African Journal of Plant and Soil (2003), 20(2), 59-63  
CODEN: SAJSEV; ISSN: 0257-1862

PB Forum Press International

DT Journal

LA English

CC 5-3 (Agrochemical Bioregulators)

AB To reduce the growth abnormalities associated with insufficient winter  
chilling, most of the apple (*Malus domestica* Borkh.) trees growing in the  
Western Cape of South Africa receive an annual application of a chemical  
**rest-breaking** agent (RBA) at the end of winter. Studies  
were initiated to find safer alternatives to the com. used  
dinitro-o-cresol/oil (DNOC/oil) and hydrogen cyanamide/oil (HC/oil).  
Mixts. of inorg. and organic nitrogen sources, together with an  
**alkoxylated fatty amine** (Acer) adjuvant, providing  
various total N concns., without (2000/2001) or with (2001/2002)  
petroleum-oil or vegetable-oil adjuvants, were evaluated against the com.  
used RBA's on mature and potted 'Golden Delicious' apple trees over two  
seasons. A total N concentration of 1.0% of the 75:25 inorg.: organic mixture  
with  
Acer but without petroleum-oil adjuvant gave the best results. The N

mixts. gave as good a response for fruit set and fruit size, but a lower bud **break** relative to the DNOC and HC after the relatively warm winter of the first season (2000/2001) but there were no differences in any of the parameters monitored after the relatively cold second season (2001/2002). On the potted trees in the very marginal Stellenbosch region, the 1.5% N mixture alone or with 1 % oil gave as good a total bud **break** as the HC/oil. More studies are necessary to investigate the relationship between the efficacy of winter chilling and use of RBAs.

- ST nitrogen adjuvant **rest breaking** agent apple; Malus
- IT **rest breaking** agent nitrogen adjuvant
- IT Hydrocarbon oils  
RL: MOA (Modifier or additive use); USES (Uses)  
(BP Ampron oil; **rest-breaking** agents evaluated on 'Golden Delicious' apple trees)
- IT Growth and development, plant  
(budbreak; **rest-breaking** agents evaluated on 'Golden Delicious' apple trees)
- IT Amines, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(fatty, ethoxylated, Acer; **rest-breaking** agents evaluated on 'Golden Delicious' apple trees)
- IT Growth and development, plant  
(fruit-set; **rest-breaking** agents evaluated on 'Golden Delicious' apple trees)
- IT Rape oil  
RL: MOA (Modifier or additive use); USES (Uses)  
(methyalted; **rest-breaking** agents evaluated on 'Golden Delicious' apple trees)
- IT Malus pumila  
(**rest-breaking** agents evaluated on 'Golden Delicious' apple trees)
- IT Hormones, plant  
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
(**rest-breaking** agents evaluated on 'Golden Delicious' apple trees)
- IT 67-48-1, Choline chloride 420-04-2, Hydrogen cyanamide 534-52-1, Dinitro-o-cresol 316373-41-8, GAN 646053-58-9  
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
(**rest-breaking** agents evaluated on 'Golden Delicious' apple trees)

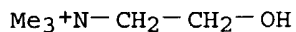
RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Erez, A; Acta Hort 1990, V279, P239
  - (2) Erez, A; J Amer Soc Hort Sci 1971, V96, P519 HCAPLUS
  - (3) Jacobs, J; J Hort Sci & Biotech 2002, V77, P333
  - (4) North, M; Acta Hort 1995, V409, P151
  - (5) North, M; Proceedings of 6th Int Symp on Adjuvants for Agrochemicals 2001, P203
  - (6) North, M; S Afr J Plant Soil 1989, V6, P176 HCAPLUS
  - (7) North, M; S Afr J Plant Soil 1992, V9, P39 HCAPLUS
  - (8) Richardson, E; HortScience 1974, V9, P331
  - (9) SAS Institute Inc; SAS/STAT User's Guide. Version 6.4th edn 1990, V2
  - (10) Saure, M; Hort Rev 1985, V7, P239
  - (11) Strydom, D; Decid Fruit Grow 1971, V21, P126
  - (12) Terblanche, J; Decid Fruit Grow 1973, V23, P8
  - (13) Wenhold, H; Decid Fruit Grow 1998, V48, P6
  - (14) Wolak, R; HortScience 1976, V11, P400 HCAPLUS
- IT 67-48-1, Choline chloride 316373-41-8  
, GAN 646053-58-9  
RL: AGR (Agricultural use); BSU (Biological study,

unclassified); BIOL (Biological study); USES (Uses)  
 (rest-breaking agents evaluated on 'Golden  
 Delicious' apple trees)

RN 67-48-1 HCAPLUS

CN Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



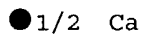
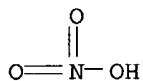
RN 316373-41-8 HCAPLUS

CN Nitric acid ammonium salt, mixt. with calcium dinitrate and urea (9CI)  
 (CA INDEX NAME)

CM 1

CRN 10124-37-5

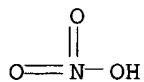
CMF Ca . 2 H N O3



CM 2

CRN 6484-52-2

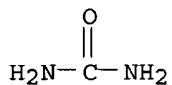
CMF H3 N . H N O3



CM 3

CRN 57-13-6

CMF C H4 N2 O



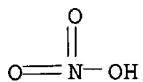
RN 646053-58-9 HCAPLUS

CN Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride, mixt. with ammonium dinitrate, calcium nitrate and urea (9CI) (CA INDEX NAME)

CM 1

CRN 10124-37-5

CMF Ca . 2 H N O3

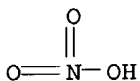


● 1/2 Ca

CM 2

CRN 6484-52-2

CMF H3 N . H N O3

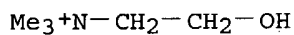


● NH<sub>3</sub>

CM 3

CRN 67-48-1

CMF C5 H14 N O . Cl

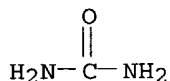


● Cl<sup>-</sup>

CM 4

CRN 57-13-6

CMF C H4 N2 O





AN 2003:113379 HCAPLUS  
 DN 138:132626  
 ED Entered STN: 13 Feb 2003  
 TI Plant growth regulating compositions containing **chlorocholine**  
 chloride  
 IN Schulteis, David T.  
 PA Wilbur-Ellis Company, USA  
 SO U.S., 7 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 IC ICM A01N033-12  
 ICS A01N059-06; A01N059-16  
 NCL 504121000; 504118000; 504120000; 504123000; 504148000  
 CC 5-3 (**Agrochemical** Bioregulators)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6518221	B1	20030211	US 2002-194724	20020711
PRAI	US 2002-194724		20020711		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6518221	ICM	A01N033-12
	ICS	A01N059-06; A01N059-16
	NCL	504121000; 504118000; 504120000; 504123000; 504148000

AB A composition for regulating the growth of plants contains an effective amount  
 of

**chlorocholine** chloride, poly[oxyethylene(dimethyliminio)ethylene(d  
 imethyliminio)ethylene]dichloride, and **choline chloride**  
 diluted in an inert carrier. The inert carrier may be water, a solvent, or  
 a **surfactant**. The composition with the diluent forms a liquid solution is  
 sprayed on the foliage of subject plants prior to harvest. At least one  
 inorg. salt may be added to the composition to enhance the efficacy of the

liquid  
 solution A first formulation of the solution, preferably including the inorg.  
 salt additive, may be applied early in the plant's development to  
 discourage rank growth without inducing Cut-Out. A second formulation of  
 the solution, having no inorg. salt but including a greater amount of  
**chlorocholine** chloride, may be applied late in the plant's  
 development, to induce Cut-Out.

ST **chlorocholine choline chloride** WSCP plant  
 growth regulator

IT Hormones, plant  
 RL: **AGR (Agricultural use)**; BSU (Biological study,  
 unclassified); BIOL (Biological study); USES (Uses)  
 (plant growth regulating compns. containing **chlorocholine**  
 chloride)

IT 6484-52-2, **Ammonium nitrate**, biological  
 studies 7487-88-9, Magnesium sulfate, biological studies 7646-85-7,  
 Zinc chloride, biological studies 7733-02-0, Zinc sulfate 7779-88-6,  
 Zinc nitrate 7785-87-7, Manganese sulfate 10043-52-4, Calcium  
 chloride, biological studies 10124-37-5, **Calcium**  
**nitrate** 10377-60-3, Magnesium nitrate 10377-66-9, Manganese  
 nitrate 15245-12-2, **Calcium ammonium**  
**nitrate**

RL: **AGR (Agricultural use)**; MOA (Modifier or additive use); BIOL  
 (Biological study); USES (Uses)  
 (in plant growth regulating compns. containing **chlorocholine**  
 chloride)

IT 494772-05-3  
 RL: **AGR (Agricultural use)**; BSU (Biological study,  
 unclassified); BIOL (Biological study); USES (Uses)

(plant growth regulating compns. containing)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Anon; GB 1092138 1967 HCAPLUS
- (2) Anon; Farm Chemicals Handbook '98 1988, V84, PC86
- (3) Kober; US 6376425 B1 2002 HCAPLUS
- (4) Koenig; US 3557214 A 1971 HCAPLUS
- (5) Miyazawa; US 5015283 A 1991 HCAPLUS
- (6) Pera; US 3771989 A 1973 HCAPLUS
- (7) Schulteis; US 4439224 A 1984
- (8) Schulze; US 4637828 A 1987 HCAPLUS
- (9) Suzuki; US 4799950 A 1989 HCAPLUS

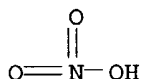
IT 6484-52-2, Ammonium nitrate, biological  
studies 10124-37-5, Calcium nitrate  
15245-12-2, Calcium ammonium nitrate

RL: AGR (Agricultural use); MOA (Modifier or additive use); BIOL  
(Biological study); USES (Uses)

(in plant growth regulating compns. containing chlorocholine  
chloride)

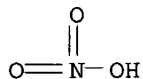
RN 6484-52-2 HCAPLUS

CN Nitric acid ammonium salt (8CI, 9CI) (CA INDEX NAME)

● NH<sub>3</sub>

RN 10124-37-5 HCAPLUS

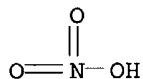
CN Nitric acid, calcium salt (8CI, 9CI) (CA INDEX NAME)



● 1/2 Ca

RN 15245-12-2 HCAPLUS

CN Nitric acid, ammonium calcium salt (8CI, 9CI) (CA INDEX NAME)

●<sub>x</sub> Ca●<sub>x</sub> NH<sub>3</sub>

IT 494772-05-3

RL: AGR (Agricultural use); BSU (Biological study,  
 unclassified); BIOL (Biological study); USES (Uses)  
 (plant growth regulating compns. containing)

RN 494772-05-3 HCAPLUS

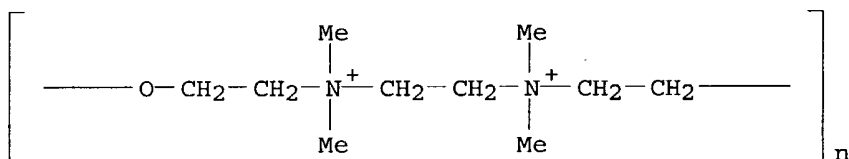
CN Ethanaminium, 2-chloro-N,N,N-trimethyl-, chloride, mixt. with  
 2-hydroxy-N,N,N-trimethylethanaminium chloride and poly[oxy-1,2-  
 ethanediyl(dimethyliminio)-1,2-ethanediyl(dimethyliminio)-1,2-ethanediyl  
 dichloride] (9CI) (CA INDEX NAME)

CM 1

CRN 31512-74-0

CMF (C10 H24 N2 O)n . 2 Cl

CCI PMS



CM 2

CRN 999-81-5

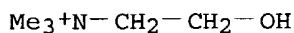
CMF C5 H13 Cl N . Cl



CM 3

CRN 67-48-1

CMF C5 H14 N O . Cl



DN 138:169441  
 ED Entered STN: 17 Jan 2003  
 TI Preparation of organomineral fertilizer from lignin, **ammonium nitrate** and sulfuric acid  
 IN Lyaskovskii, M. I.; Novikov, P. N.; Umanskii, R. I.; Ovchinnikova, K. N.  
 PA Otkrytoe Aktsionernoe Obshchestvo "Buisckii Khimicheskii Zavod", Russia  
 SO Russ., No pp. given  
 CODEN: RUXXE7  
 DT Patent  
 LA Russian  
 IC ICM C05G001-00  
 ICS C05F011-02  
 CC 19-6 (Fertilizers, Soils, and Plant Nutrition)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	RU 2185353	C1	20020720	RU 2001-121347	20010801
PRAI	RU 2001-121347		20010801		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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RU 2185353	ICM	C05G001-00
	ICS	C05F011-02

AB Organomineral fertilizer is prepared by mixing lignin with **ammonium nitrate** and sulfuric acid. Mix is stirred for 30 to 60 min and then phosphorus- and potassium-containing components, calcium carbonate, magnesium salts, trace minerals, and growth regulator are added. The obtained product is granulated and dried. Apatite is used as a phosphorus-containing component in the amount necessary to achieve the nitrogen-to-phosphorus ratio of 1.3- 1.7 in the mixture, at the pH of 6.5-8, which is achieved by adding calcium carbonate. Calcium salt is added to achieve the N/K ratio in the final product of 1:1.8-2.2.

ST organomineral fertilizer lignin **ammonium nitrate**  
 sulfuric acid apatite

IT Fertilizers

RL: AGR (Agricultural use); IMF (Industrial manufacture); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (organomineral; preparation of organomineral fertilizer from lignin, **ammonium nitrate** and sulfuric acid)

IT Apatite-group minerals

RL: AGR (Agricultural use); TEM (Technical or engineered material use); BIOL (Biological study); USES (Uses)  
 (preparation of organomineral fertilizer)

IT 999-81-5, Chlorocholinechloride 7439-93-2D, Lithium, salts 7439-96-5D, Manganese, salts 7439-98-7D, Molybdenum, salts 7440-42-8D, Boron, salts 7440-50-8D, Copper, salts 7440-66-6D, Zinc, salts 7487-88-9, Magnesium sulfate, biological studies  
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
 (preparation of organomineral fertilizer)

IT 6484-52-2, **Ammonium nitrate**, biological studies 7664-93-9, Sulfuric acid., biological studies 9005-53-2, Lignin, biological studies  
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); BIOL (Biological study); PROC (Process); USES (Uses)  
 (preparation of organomineral fertilizer)

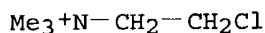
IT 471-34-1, Calcium carbonate., uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (preparation of organomineral fertilizer)

IT 999-81-5, Chlorocholinechloride  
 RL: AGR (Agricultural use); BSU (Biological study,

unclassified); BIOL (Biological study); USES (Uses)  
(preparation of organomineral fertilizer)

RN 999-81-5 HCAPLUS

CN Ethanaminium, 2-chloro-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



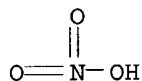
● Cl<sup>-</sup>

IT 6484-52-2, Ammonium nitrate, biological studies

RL: AGR (Agricultural use); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); BIOL (Biological study); PROC (Process); USES (Uses)  
(preparation of organomineral fertilizer)

RN 6484-52-2 HCAPLUS

CN Nitric acid ammonium salt (8CI, 9CI) (CA INDEX NAME)



● NH<sub>3</sub>

L96 ANSWER 5 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:833491 HCAPLUS

DN 137:306062

ED Entered STN: 01 Nov 2002

TI Agricultural formulation containing a carboxylic or phosphorus-containing acid, an amine surfactant, and a water-soluble agrochemical

IN Volgas, Greg; Roberts, Johnnie R.; Hayes, Amanda

PA USA

SO U.S. Pat. Appl. Publ., 8 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM A01N057-00

ICS A01N057-18; A01N025-02; A01N025-04; A01N025-16

NCL 504194000

CC 5-4 (Agrochemical Bioregulators)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002160916	A1	20021031	US 2002-81627	20020220
PRAI	US 2001-270311P	P	20010221		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2002160916	ICM	A01N057-00
	ICS	A01N057-18; A01N025-02; A01N025-04; A01N025-16
	NCL	504194000

AB An agricultural composition comprises: (a) a carboxylic acid or phosphorus containing acid providing that the phosphorus containing acid is not a glyphosate,

(b) an amine containing surfactant and (c) at least one water soluble agricultural chemical, with the proviso that the composition contains less than 3 percent by weight of phosphate ester surfactant and the proviso that if a carboxylic acid and glyphosate are present, then said glyphosate and carboxylic acid are in a weight/weight ratio of glyphosate to carboxylic acid in a 8:1 to about 2:1. The water-soluble agricultural chemical is a fertilizer or a pesticide.

ST carboxylic phosphorus acid amine surfactant agrochem formulation

IT Carboxylic acids, biological studies  
 RL: **AGR (Agricultural use)**; BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
 (ammonium salts; in formulations containing carboxylic or phosphorus-containing acid and amine surfactant)

IT Agrochemical formulations  
 (containing carboxylic or phosphorus-containing acid, amine surfactant, and water-soluble agrochem.)

IT Carboxylic acids, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (dicarboxylic; in formulations containing water-soluble agrochem. and amine surfactant)

IT Phosphates, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (esters; surfactant in agricultural formulation containing carboxylic or phosphorus-containing acid and water-soluble agrochem.)

IT **Amines**, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (fatty, **alkoxylated**; surfactant in agricultural formulation containing carboxylic or phosphorus-containing acid and water-soluble agrochem.)

IT Fungicides  
 Herbicides  
 Insecticides  
 Pesticides  
 (in formulations containing carboxylic or phosphorus-containing acid and amine surfactant)

IT Fertilizers  
 RL: **AGR (Agricultural use)**; BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
 (in formulations containing carboxylic or phosphorus-containing acid and amine surfactant)

IT Carboxylic acids, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (in formulations containing water-soluble agrochem. and amine surfactant)

IT Acids, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (phosphorus-containing; in formulations containing water-soluble agrochem. and amine surfactant)

IT **Amines**, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (surfactant in agricultural formulation containing carboxylic or phosphorus-containing acid and water-soluble agrochem.)

IT Auxins  
 RL: **AGR (Agricultural use)**; BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
 (synthetic; in formulations containing carboxylic or phosphorus-containing acid and amine surfactant)

IT Amines, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (tallow alkyl, ethoxylated; surfactant in agricultural formulation containing carboxylic or phosphorus-containing acid and water-soluble agrochem.)

IT Fertilizers  
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
 (trace element; in formulations containing carboxylic or phosphorus-containing acid and amine surfactant)

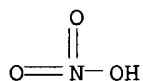
IT Carboxylic acids, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (tricarboxylic acids; in formulations containing water-soluble agrochem. and amine surfactant)

IT 57-13-6, Urea, biological studies 93-65-2, Mecoprop 93-76-5, 2,4,5-Trichlorophenoxy acetic acid 94-75-7, 2,4-Dichlorophenoxy acetic acid, biological studies 94-81-5, MCPB 94-82-6, 2,4-Dichlorophenoxy butyric acid 120-36-5, Dichlorprop 133-90-4, Chloramben 631-61-8, Ammonium acetate. 1071-83-6, Glyphosate 1702-17-6, Clopyralid 1918-00-9, Dicamba 1918-02-1, Picloram 2008-39-1 2300-66-5  
**6484-52-2, Ammonium nitrate**, biological studies 7439-89-6D, Iron, salts 7439-95-4D, Magnesium, salts 7439-96-5D, Manganese, salts 7440-42-8D, Boron., salts 7440-50-8D, Copper, salts 7440-66-6D, Zinc, salts 7632-50-0, Ammonium citrate 7758-11-4, Di-potassium phosphate 7778-77-0, Mono-potassium phosphate 7783-20-2, Ammonium sulfate, biological studies 15165-67-0, Dichlorprop-P 16484-77-8, Mecoprop-P 26469-60-3, Quinoline carboxylic acid 27193-83-5, Monochlorophenoxy acetic acid 32075-31-3, Pyridine carboxylic acid, 38641-94-0, Glyphosate, Isopropylamine salt 51276-47-2, Glufosinate 55335-06-3, Triclopyr 68586-07-2 69377-81-7, Fluroxypyr 81591-81-3, Glyphosate-trimesium 84087-01-4, Quinclorac 84496-56-0, Clomeprop 90717-03-6, Quinmerac  
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
 (in formulations containing carboxylic or phosphorus-containing acid and amine surfactant)

IT 64-18-6, Formic acid, uses 64-19-7, Acetic acid, uses 77-92-9, Citric acid., uses 79-09-4, Propionic acid, uses 107-92-6, Butyric acid, uses 109-52-4, Valeric acid., uses 110-15-6, Succinic acid, uses 110-94-1, Glutaric acid. 141-82-2, Malonic acid, uses 144-62-7, Oxalic acid, uses 7664-38-2, Phosphoric acid., uses 13598-36-2, Phosphorous acid.  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (in formulations containing water-soluble agrochem. and amine surfactant)

IT **6484-52-2, Ammonium nitrate**, biological studies  
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
 (in formulations containing carboxylic or phosphorus-containing acid and amine surfactant)

RN 6484-52-2 HCAPLUS  
 CN Nitric acid ammonium salt (8CI, 9CI) (CA INDEX NAME)



● NH<sub>3</sub>

L96 ANSWER 6 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:559162 HCAPLUS  
 DN 137:258801  
 ED Entered STN: 29 Jul 2002  
 TI Effects of new **rest-breaking** chemicals on flowering, shoot production and yield of subtropical tree crops  
 AU George, A. P.; Broadley, R. H.; Nissen, R. J.; Ward, G.  
 CS Maroochy Research Station, Queensland Horticulture Institute, Nambour, Q4560, Australia  
 SO Acta Horticulturae (2002), 575 (Vol. 2, Proceedings of the International Symposium on Tropical and Subtropical Fruits, 2000, Volume 2), 835-840  
 CODEN: AHORA2; ISSN: 0567-7572  
 PB International Society for Horticultural Science  
 DT Journal  
 LA English  
 CC 5-3 (**Agrochemical** Bioregulators)  
 AB Chilling, or the alleviation of drought, is required to cause the transition of both vegetative and floral buds of temperate or semi-deciduous subtropical fruit species from the dormant to active state. The chilling requirement of the variety must closely match the amount of chilling received at the location otherwise the variety will exhibit signs of lack of chilling such as sporadic budbreak and uneven shoot development along branches. Several expts. were conducted in southeast Queensland to determine whether various combinations of new **rest-breaking** chems. could induce more uniform budbreak and increase flowering of a range of low-chill temperate and subtropical species (low-chill stonefruit, persimmon and custard apple). These expts. demonstrated the beneficial effects of using restbreaking chems. to **break** dormancy, advance flowering and fruit maturity, and increase lateral number by reducing strong apical dominance. The most successful **rest-breaking** chems. were **Armobreak** and Waiken but only when combined with **potassium nitrate** which greatly improved their efficacy by 20-30%. Compared with Dormex, these combinations appear to have relatively low mammalian- and phyto-toxicity increasing their potential for safe com. use. Further testing on a wider range of species/varieties and environments are needed to determine the optimum concns. and timing.  
 ST dormancy **breaking** subtropical fruit tree  
 IT Amines, biological studies  
 RL: **AGR (Agricultural use)**; BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
 (N-tallow alkylalkylenediamines, ethoxylated propoxylated; effects of **rest-breaking** chems. on flowering, shoot production and yield of subtropical fruit trees)  
 IT Growth and development, plant  
 (budbreak; effects of **rest-breaking** chems. on flowering, shoot production and yield of subtropical fruit trees)  
 IT Growth and development, plant  
 (dormancy-**breaking**; effects of **rest-breaking** chems. on flowering, shoot production and yield of subtropical fruit trees)  
 IT Prunus persica nectarina

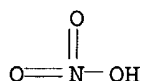


- (effects of **rest-breaking** chems. on flowering, shoot production and yield of)
- IT Growth and development, plant  
(effects of **rest-breaking** chems. on flowering, shoot production and yield of subtropical fruit trees)
- IT Hormones, plant  
RL: **AGR (Agricultural use)**; BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
(effects of **rest-breaking** chems. on flowering, shoot production and yield of subtropical fruit trees)
- IT Diospyros  
(non-astringent; effects of **rest-breaking** chems. on flowering, shoot production and yield of)
- IT Annona  
(spp. hybrids; effects of **rest-breaking** chems. on flowering, shoot production and yield of)
- IT Fruit tree  
(subtropical; effects of **rest-breaking** chems. on flowering, shoot production and yield of)
- IT 77-06-5, GA3 156-62-7, Dormex 7757-79-1, **Potassium nitrate**, biological studies 462094-02-6, Waiken  
RL: **AGR (Agricultural use)**; BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
(effects of **rest-breaking** chems. on flowering, shoot production and yield of subtropical fruit trees)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Blaine, A; Crop Production 1979, V8, P139
  - (2) Campbell, J; Agrilink Series 1998, QAL 9705, P27
  - (3) Edwards, G; Acta Hort 1986, V179, P363
  - (4) Edwards, G; HortScience 1987, V26, P236
  - (5) Erez, A; Acta Hort 1995, V395, P81
  - (6) Erez, A; Acta Hort 1997, V441, P183 HCAPLUS
  - (7) Erez, A; HortScience 1987, V22, P1240 HCAPLUS
  - (8) Erez, A; Israel Special Publication 1983, 222, P49
  - (9) Erez, A; J Amer Soc Hort Sci 1971, V96, P519 HCAPLUS
  - (10) Erez, A; Proceedings of the 19th International Horticultural Congress 1974, VIII, P69
  - (11) Erez, A; Scientia Hortic 1981, V14, P47 HCAPLUS
  - (12) George, A; Aust J Exper Agric 1988, V28, P425 HCAPLUS
  - (13) George, A; Aust J Exper Agric 1988, V28, P533 HCAPLUS
  - (14) George, A; Aust J Exper Agric 1993, V33, P787 HCAPLUS
  - (15) George, A; Proc 2nd Natl Low-chill Stonefruit Conf NSW Agriculture 1992, P83
  - (16) North, M; Sth Afric Plant and Soil 1992, V9, P39 HCAPLUS
  - (17) Wang, S; Physiol Plant 1998, V72, P115
- IT 7757-79-1, **Potassium nitrate**, biological studies  
RL: **AGR (Agricultural use)**; BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
(effects of **rest-breaking** chems. on flowering, shoot production and yield of subtropical fruit trees)
- RN 7757-79-1 HCAPLUS
- CN Nitric acid potassium salt (8CI, 9CI) (CA INDEX NAME)



● K

L96 ANSWER 7 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:331960 HCAPLUS  
 DN 136:320816  
 ED Entered STN: 03 May 2002  
 TI Agrochemical pesticides formulation aid composition  
 IN Stewart, James F.; Reinartz, Heinrich J.; Brown, William G.  
 PA Adjuvants Plus Inc., Can.  
 SO PCT Int. Appl., 41 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM A01N025-30  
 ICS A01N025-02  
 CC 5-5 (Agrochemical Bioregulators)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002034047	A1	20020502	WO 2001-CA1508	20011026
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2002013707	A5	20020506	AU 2002-13707	20011026
	EP 1330159	A1	20030730	EP 2001-982006	20011026
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2004511571	T2	20040415	JP 2002-537113	20011026
	BR 2001015184	A	20040622	BR 2001-15184	20011026
	US 2004077501	A1	20040422	US 2003-630806	20030731
	US 2004132622	A1	20040708	US 2004-415294	20040225
PRAI	CA 2000-2324677	A	20001026		
	WO 2001-CA1508	W	20011026		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002034047	ICM	A01N025-30
	ICS	A01N025-02
JP 2004511571	FTERM	4H011/AB01; 4H011/BA01; 4H011/BB06; 4H011/BB17; 4H011/BC03; 4H011/BC06; 4H011/BC07; 4H011/BC17; 4H011/BC19; 4H011/DA21; 4H011/DE15; 4H011/DH03
US 2004077501	ECLA	A01N025/04; A01N025/30; A01N037/40; A01N039/04; A01N057/20

AB There is provided an agrochem. formulation aid composition for preparing bioactive and sprayable agrochems., wherein various components for the composition were selected from mineral oil paraffinic distillate and/or aromatic hydrocarbon distillate; 2N-octanol; oleyl-cetyl alc.; polyoxyethylene (2) oleylether ;

polyoxyethylene (8) nonylphenoethin and/or ethoxylated tallow amine blend; sodium lauryl sulfate; fatty alc. **alkoxylate**; terpenes, diammonium phosphate; tetrasodium ethylene diamine tetracetate; cab-o-sil; fatty acid Me ester; (C18) free fatty acid blend; N-butanol; and Me alc. Also provided are methods of preparing the formulation aid composition on site by mixing various components and methods of preparing sprayable and bioactive agrochem. systems using the formulation aid and non-formulated or formulated agrochemicals. Also provided are uses of the formulation aid in preparing sprayable and bioactive agrochem. systems for controlling pests.

- ST pesticide formulation adjuvant
- IT Fatty acids, uses
  - RL: MOA (Modifier or additive use); USES (Uses)
  - (C18; agrochem. pesticides formulation aid composition containing)
- IT Fatty acids, uses
  - RL: MOA (Modifier or additive use); USES (Uses)
  - (Me esters; agrochem. pesticides formulation aid composition containing)
- IT Agrochemical formulations
  - (adjuvants; agrochem. pesticides formulation aid composition containing)
- IT Dispersing agents
  - Emulsifying agents
  - Penetrating agents
  - Surfactants
  - (agrochem. pesticides formulation aid composition containing)
- IT Fertilizers
  - RL: **AGR (Agricultural use)**; MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)
  - (agrochem. pesticides formulation aid composition containing)
- IT Aromatic hydrocarbons, uses
  - Paraffin oils
  - RL: MOA (Modifier or additive use); USES (Uses)
  - (agrochem. pesticides formulation aid composition containing)
- IT Sprays
  - (agrochem.; aid composition for preparation of)
- IT Petroleum products
  - (distillates; agrochem. pesticides formulation aid composition containing)
- IT Fungicides
- Herbicides
- Insecticides
- Rodenticides
  - (formulation aid composition for)
- IT Agrochemical formulations
  - (sprays; aid composition for preparation of)
- IT Amines, uses
  - RL: MOA (Modifier or additive use); USES (Uses)
  - (tallow alkyl, ethoxylated; agrochem. pesticides formulation aid composition containing)
- IT **6484-52-2, Ammonium nitrate**, biological studies 7664-41-7, Ammonia, biological studies 7783-20-2, Ammonium sulfate, biological studies 7783-28-0, Diammonium phosphate;
  - RL: **AGR (Agricultural use)**; MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)
  - (agrochem. pesticides formulation aid composition containing)
- IT 64-02-8 67-56-1, Methyl alcohol, uses 71-36-3, N-Butanol;, uses 123-96-6, 2-Octanol 151-21-3, Sodium lauryl sulfate, uses 7631-86-9, Silica, uses 8014-52-6 9004-98-2 9016-45-9, Renex 688 73468-21-0, Atplus 300F 128088-09-5, Plurafac LF 700
  - RL: MOA (Modifier or additive use); USES (Uses)
  - (agrochem. pesticides formulation aid composition containing)
- IT 94-75-7, 2,4-D, biological studies 1071-83-6, Glyphosate 1918-00-9, Dicamba 38641-94-0, Roundup Ultra
  - RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)
  - (formulation aid composition for)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

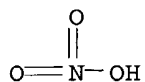
- (1) Akzo Nv; GB 1576228 A 1980 HCAPLUS
- (2) Ian, A; US 5849264 A 1998 HCAPLUS
- (3) Monsanto Europe Sa; EP 0617894 A 1994 HCAPLUS
- (4) Shell Int Research; EP 0057035 A 1982 HCAPLUS

IT 6484-52-2, Ammonium nitrate, biological studies

RL: AGR (Agricultural use); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses) (agrochem. pesticides formulation aid composition containing)

RN 6484-52-2 HCAPLUS

CN Nitric acid ammonium salt (8CI, 9CI) (CA INDEX NAME)



● NH<sub>3</sub>

L96 ANSWER 8 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:816374 HCAPLUS

DN 135:340484

ED Entered STN: 09 Nov 2001

TI Seed treatment composition for mitigating stress effects on plants

IN Li, Paul Pen Hsiang; Jian, Ling-Cheng

PA Regents of the University of Minnesota, USA

SO PCT Int. Appl., 27 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A01N033-12

ICS A01N033-12; A01N059-08; A01N059-06; A01N037-40; A01N033-08; A01N031-02

CC 5-3 (Agrochemical Bioregulators)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001082697	A2	20011108	WO 2001-US13634	20010427 <--
	WO 2001082697	A3	20020704		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	US 6455468	B1	20020924	US 2000-560117	20000428 <--
PRAI	US 2000-560117	A	20000428	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 2001082697	ICM	A01N033-12	
	ICS	A01N033-12; A01N059-08; A01N059-06; A01N037-40; A01N033-08; A01N031-02	
US 6455468	ECLA	A01C001/06; A01N033/12	<--

AB The invention provides a composition useful for treating seeds, including at least one **choline** compound, a calcium salt, a potassium salt, and salicylic acid, and optionally containing an alkanolamine and/or glycerol.

ST seed treatment compn plant stress

IT Alcohols, biological studies  
 RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)  
 (amino; in seed treatment composition for mitigating stress effects on plants)

IT Corn  
 Seed  
 Soybean (Glycine max).  
 Stress, plant  
 (in seed treatment composition for mitigating stress effects on plants)

IT 56-81-5, Glycerol., biological studies **67-48-1, Choline chloride** 69-72-7, Salicylic acid, biological studies 141-43-5, Aminoethanol, biological studies **999-81-5, ChloroCholine chloride** 7440-09-7D, Potassium, salts, biological studies 7440-70-2D, Calcium, salts, biological studies 7447-40-7, Potassium chloride, biological studies **7757-79-1, Potassium nitrate**, biological studies 10043-52-4, Calcium chloride, biological studies **10124-37-5, Calcium nitrate**  
 RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)  
 (in seed treatment composition for mitigating stress effects on plants)

IT **67-48-1, Choline chloride 999-81-5, ChloroCholine chloride 7757-79-1, Potassium nitrate**, biological studies **10124-37-5, Calcium nitrate**  
 RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)  
 (in seed treatment composition for mitigating stress effects on plants)

RN 67-48-1 HCAPLUS

CN Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

$\text{Me}_3^+\text{N}-\text{CH}_2-\text{CH}_2-\text{OH}$

●  $\text{Cl}^-$

RN 999-81-5 HCAPLUS

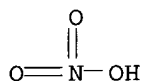
CN Ethanaminium, 2-chloro-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

$\text{Me}_3^+\text{N}-\text{CH}_2-\text{CH}_2\text{Cl}$

●  $\text{Cl}^-$

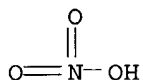
RN 7757-79-1 HCAPLUS

CN Nitric acid potassium salt (8CI, 9CI) (CA INDEX NAME)



● K

RN 10124-37-5 HCAPLUS  
 CN. Nitric acid, calcium salt (8CI, 9CI) (CA INDEX NAME)



● 1/2 Ca

L96 ANSWER 9 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:63761 HCAPLUS  
 DN 134:96641  
 ED Entered STN: 26 Jan 2001  
 TI **Rest-breaking** composition for deciduous fruit trees  
 comprising an organic nitrogen-containing compound.  
 IN **MacDonald, Brian P.; Workel, Hennie A.**  
 PA **Akzo Nobel N.V., Neth.**  
 SO PCT Int. Appl., 16 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM A01N033-12  
 ICS A01N033-12; A01N059-16; A01N059-06; A01N059-00; A01N033-08;  
 A01N025-30

CC 5-3 (Agrochemical Bioregulators)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001005227	A1	20010125	WO 2000-EP6234	20000703 <--
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	BR 2000012518	A	20020402	BR 2000-12518	20000703 <--
	EP 1194038	A1	20020410	EP 2000-949250	20000703 <--
	EP 1194038	B1	20030924		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	TR 200200077	T2	20030221	TR 2002-200200077	20000703 <--
	NZ 516634	A	20030228	NZ 2000-516634	20000703 <--
	AT 250339	E	20031015	AT 2000-949250	20000703 <--
	AU 768264	B2	20031204	AU 2000-62680	20000703 <--
	PT 1194038	T	20040227	PT 2000-949250	20000703 <--

ES 2207533	T3	20040601	ES 2000-949250	20000703 <--
EG 22491	A	20030331	EG 2000-910	20000715 <--
ZA 2002000360	A	20030415	ZA 2002-360	20020115 <--
PRAI EP 1999-202342	A	19990716	<--	
WO 2000-EP6234	W	20000703	<--	

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001005227	ICM	A01N033-12
	ICS	A01N033-12; A01N059-16; A01N059-06; A01N059-00; A01N033-08; A01N025-30
AB		The invention relates to a composition useful for the <b>breaking</b> of rest in deciduous fruit species such as apple species and grape species comprising an organic nitrogen-containing compound having a mol. weight of 60 to 300 with the exception of urea and dinitro-ortho-cresol, an inorg. nitrate <b>rest-breaking</b> agent, and a <b>surfactant</b> . Preferably, the organic nitrogen-containing compound is a <b>choline</b> salt such as <b>choline chloride</b> , the inorg. nitrate <b>rest-breaking</b> agent is selected from the group consisting of <b>potassium nitrate</b> , <b>calcium nitrate</b> , <b>ammonium nitrate</b> , <b>calcium ammonium nitrate</b> , <b>urea ammonium nitrate</b> , <b>zinc ammonium nitrate</b> , and mixts. thereof, and the <b>surfactant</b> is an <b>alkoxylated amine</b> such as <b>Armoblen</b> , <b>Armobreak</b> , and <b>Berol</b> compds. or an <b>alkoxylated quaternary ammonium</b> compound
ST		nitrate <b>choline chloride rest breaking</b> deciduous fruit tree; hormone plant <b>rest breaking</b> apple grape
IT		<b>Amines</b> , uses <b>Quaternary ammonium compounds</b> , uses RL: MOA (Modifier or additive use); USES (Uses) ( <b>alkoxylated</b> ; <b>surfactant in rest-breaking</b> composition for deciduous fruit trees comprising organic nitrogen-containing compound)
IT		Fruit tree (deciduous; <b>rest-breaking</b> composition comprising organic nitrogen-containing compound for)
IT		Apple Grape ( <b>rest-breaking</b> composition comprising organic nitrogen-containing compound for)
IT		Hormones, plant RL: AGR ( <b>Agricultural use</b> ); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses) ( <b>rest-breaking</b> composition for deciduous fruit trees containing)
IT		6484-52-2, <b>Ammonium nitrate</b> , biological studies 7757-79-1, <b>Potassium nitrate</b> , biological studies 10124-37-5, <b>Calcium nitrate</b> 15245-12-2, <b>Calcium ammonium nitrate</b> 15978-77-5, <b>Urea ammonium nitrate</b> 73376-28-0, <b>Nitric acid</b> , ammonium zinc salt RL: AGR ( <b>Agricultural use</b> ); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses) ( <b>rest-breaking</b> composition for deciduous fruit trees containing)
IT		62-49-7D, (2-Hydroxyethyl) trimethylammonium, salt 67-48-1, <b>Choline</b>

chloride 316373-41-8, GAN

RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)  
(rest-breaking composition for deciduous fruit trees containing)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Butselaar, R; WO 9724926 A 1997 HCAPLUS

(2) Kessler, B; US 4309205 A 1982 HCAPLUS

(3) Kohl, W; US 4125393 A 1978 HCAPLUS

(4) Nalewaja, J; US 5658855 A 1997 HCAPLUS

(5) Parr, W; WO 9601049 A 1996 HCAPLUS

IT 6484-52-2, Ammonium nitrate, biological studies 7757-79-1, Potassium nitrate, biological studies 10124-37-5, Calcium nitrate 15245-12-2, Calcium ammonium nitrate

15978-77-5, Urea ammonium nitrate

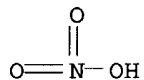
73376-28-0, Nitric acid, ammonium zinc salt

RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)

(rest-breaking composition for deciduous fruit trees containing)

RN 6484-52-2 HCAPLUS

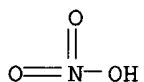
CN Nitric acid ammonium salt (8CI, 9CI) (CA INDEX NAME)



● NH<sub>3</sub>

RN 7757-79-1 HCAPLUS

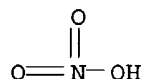
CN Nitric acid potassium salt (8CI, 9CI) (CA INDEX NAME)



● K

RN 10124-37-5 HCAPLUS

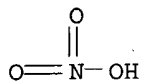
CN Nitric acid, calcium salt (8CI, 9CI) (CA INDEX NAME)



● 1/2 Ca



RN 15245-12-2 HCAPLUS  
CN Nitric acid, ammonium calcium salt (8CI, 9CI) (CA INDEX NAME)



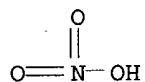
●x Ca

●x NH<sub>3</sub>

RN 15978-77-5 HCAPLUS  
CN Nitric acid ammonium salt, mixt. with urea (9CI) (CA INDEX NAME)

CM 1

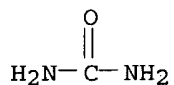
CRN 6484-52-2  
CMF H3 N . H N O3



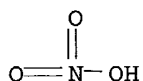
● NH<sub>3</sub>

CM 2

CRN 57-13-6  
CMF C H4 N2 O



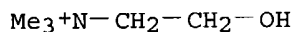
RN 73376-28-0 HCAPLUS  
CN Nitric acid, ammonium zinc salt (9CI) (CA INDEX NAME)



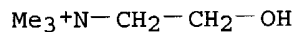
●<sub>x</sub> NH<sub>3</sub>

●<sub>x</sub> Zn

IT 62-49-7D, (2-Hydroxyethyl)  
trimethylammonium, salt 67-48-1, Choline  
chloride 316373-41-8, GAN  
RL: AGR (Agricultural use); BAC (Biological activity or  
effector, except adverse); BSU (Biological study, unclassified); MOA  
(Modifier or additive use); BIOL (Biological study); USES (Uses)  
(rest-breaking composition for deciduous fruit trees  
containing)  
RN 62-49-7 HCAPLUS  
CN Ethanaminium, 2-hydroxy-N,N,N-trimethyl- (9CI) (CA INDEX NAME)



RN 67-48-1 HCAPLUS  
CN Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

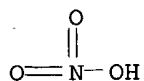


● Cl<sup>-</sup>

RN 316373-41-8 HCAPLUS  
CN Nitric acid ammonium salt, mixt. with calcium dinitrate and urea (9CI)  
(CA INDEX NAME)

CM 1

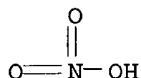
CRN 10124-37-5  
CMF Ca . 2 H N O<sub>3</sub>



●<sub>1/2</sub> Ca

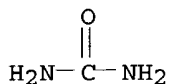
CM 2

CRN 6484-52-2  
CMF H3 N . H N O3



CM 3

CRN 57-13-6  
CMF C H4 N2 O



L96 ANSWER 10 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2000:753899 HCAPLUS  
DN 134:82127  
ED Entered STN: 26 Oct 2000  
TI Preliminary results for the evaluation of new **rest breaking** agents on table grapes in South Africa  
AU Lombard, P. J.; Viljoen, J. A.; Wolf, E. E. H.  
CS ARC-Fruit, Vine and Wine Research Institute, Stellenbosch, 7599, S. Afr.  
SO Acta Horticulturae (2000), 514(Proceedings of the XXV International Horticultural Congress, 1998, Pt. 4), 99-112  
CODEN: AHORA2; ISSN: 0567-7572  
PB International Society for Horticultural Science  
DT Journal  
LA English  
CC 5-3 (Agrochemical Bioregulators)  
AB **Rest breaking** agents play an important role in the production of table grapes in the early ripening regions of South Africa. The use of **rest breaking** agents is often associated with uneven bud burst, decreased fertility and poor bunch quality. Hydrogen cyanamide (Dormex) is the main **rest breaking** agent registered for use on vines. Three trials were initiated on two Sultanina clone H5 (Vitis vinifera L.). The **rest breaking** agent GAN (urea ammonium nitrate and calcium nitrate) together with various adjuvants (Armobreak and ACAR 97S21) and application times, was evaluated and compared to a standard hydrogen cyanamide treatment. Although the standard cyanamide treatment induced bud burst earlier than GAN, these treatments did not differ regarding yield, quality and bunch ripeness at harvest. GAN, in combination with the adjuvants, was most effective applied four and a half weeks before expected bud burst. Climatic conditions before bud burst in the 1996/97 season were normal, but unseasonably cold and wet between bud burst and harvest. In 1997/98, conditions were cooler before bud burst, but dry and warm until harvest. GAN is effective on table grapes, when used in conjunction with the adjuvants tested.  
ST dormancy **breaking** grape  
IT Amines, uses

RL: MOA (Modifier or additive use); USES (Uses)  
 (N-tallow alkylalkylenediamines, ethoxylated propoxylated; adjuvant for  
 dormancy **breaking** agents used in table grapes)

IT Growth and development, plant  
 (dormancy; dormancy **breaking** in table grapes)

IT Grape  
 (table; dormancy **breaking** in)

IT 316373-41-8, GAN  
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)  
 (GAN; dormancy **breaking** in table grapes by)

IT 316371-60-5, ACAR 97S21  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (adjuvant for dormancy **breaking** agents used in table grapes)

IT 156-62-7, (Dormex)  
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)  
 (dormancy **breaking** in table grapes by)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Burnett, J; Deciduous Fruit Grower 1985, V35(8), P281
- (2) Coombe, B; Australian Journal of Grape and Wine Research 1995, V1, P100
- (3) Dokoozlian, N; 1996/97 Research Report for the California Table Grape  
 Commission 1997
- (4) Dokoozlian, N; HortScience 1995, V30(6), P1244 HCAPLUS
- (5) Dry, P; The Australian Grapegrower and Winemaker Annual Technical Issue  
 1992, P29
- (6) Erez, A; HortScience 1987, V22(6), P1240 HCAPLUS
- (7) George, A; Acta Horticulturae 1990, V279, P427
- (8) George, A; Australian Journal of Experimental Agriculture 1988, V28, P533  
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- (9) Lang, G; HortScience 1985, V20(5), P809
- (10) Lavee, S; Proceedings: Seventh Australian Wine Industry Technical  
 Conference 1990, P142
- (11) Linsley-Noakes, G; thesis University of Natal 1994
- (12) McColl, C; Australian Journal of Experimental Agriculture 1986, V26, P505  
 HCAPLUS
- (13) Shulman, Y; Scientia Horticulturae 1983, V19, P97 HCAPLUS
- (14) Siller-Cepeda, J; HortScience 1992, V27(8), P874 HCAPLUS
- (15) Smit, C; Deciduous Fruit Grower 1985, V35(8), P273
- (16) Zelleke, A; American Journal of Enology and Viticulture 1989, V40(1), P47  
 HCAPLUS

IT 316373-41-8, GAN  
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)  
 (GAN; dormancy **breaking** in table grapes by)

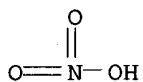
RN 316373-41-8 HCAPLUS

CN Nitric acid ammonium salt, mixt. with calcium dinitrate and urea (9CI)  
 (CA INDEX NAME)

CM 1

CRN 10124-37-5

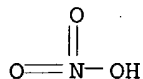
CMF Ca . 2 H N O3



CM 2

CRN 6484-52-2

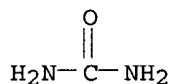
CMF H3 N . H N O3

● NH<sub>3</sub>

CM 3

CRN 57-13-6

CMF C H4 N2 O



L96 ANSWER 11 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1998:330508 HCAPLUS  
 DN 129:64275  
 ED Entered STN: 03 Jun 1998  
 TI Effect of dormancy **breaking** agents with **Armobreak** in  
 the peach  
 AU Erez, A.; Yablowitz, Z.  
 CS The Volcani Center, A.R.O., Institute of Horticulture, Bet-Dagan, 50250,  
 Israel  
 SO Acta Horticulturae (1997), 441(Fifth International Symposium on  
 Temperate Zone Fruits in the Tropics and Subtropics, 1996), 183-190  
 CODEN: AHORA2; ISSN: 0567-7572  
 PB International Society for Horticultural Science  
 DT Journal  
 LA English  
 CC 5-3 (Agrochemical Bioregulators)  
 AB The need for safe non toxic chems. for use as **rest-**  
**breaking** agents led us to explore the potential of using the  
**Armobreak**, a fatty amine made by Akzo in The Netherlands, in addition  
 to other dormancy **breaking** agents, on peaches. The use of  
 oil-DNOC on peach, may soon be discontinued due to its toxicity, and  
 Dormex often damages the flowers and hence reduces yields. Based on 3 yr  
 of trials **Armobreak** reduced concentration of other added chems. and  
 enhanced markedly the effect of KNO<sub>3</sub>. A specific characteristic  
 of this chemical is its ability to advance flowering, especially when used  
 with low  
 concns. of other chems. This may lead to a better level of fruit set due  
 to reduced competition between the reproductive and the vegetative sinks,  
 especially at the same node.  
 ST peach dormancy **breaking Armobreak potassium**  
**nitrate**  
 IT Amines, biological studies  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological  
 study, unclassified); BIOL (Biological study)  
 (diamines, N-tallow alkylalkylenediamines, ethoxylated propoxylated;

effect of dormancy **breaking** agents and **Armobreak** in peach)

IT Growth and development, plant  
(dormancy-**breaking**; effect of dormancy **breaking** agents and **Armobreak** in peach)

IT Peach (Prunus persica)  
(effect of dormancy **breaking** agents and **Armobreak** in peach)

IT Growth and development, plant  
(fruit-set; effect of dormancy **breaking** agents and **Armobreak** in peach)

IT 7757-79-1, Potassium nitrate, biological studies  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)  
(effect of dormancy **breaking** agents and **Armobreak** in peach)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Erez, A; HortScience 1987, V22, P1240 HCAPLUS

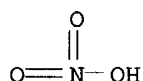
(2) North, M; S Afr Plant Soil 1992, V9, P39 HCAPLUS

(3) Wang, S; Phytochemistry 1986, V25, P311 HCAPLUS

IT 7757-79-1, Potassium nitrate, biological studies  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)  
(effect of dormancy **breaking** agents and **Armobreak** in peach)

RN 7757-79-1 HCAPLUS

CN Nitric acid potassium salt (8CI, 9CI) (CA INDEX NAME)



● K

L96 ANSWER 12 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:126221 HCAPLUS

DN 128:192131

ED Entered STN: 02 Mar 1998

TI Accelerators of plant absorption of fertilizer

IN Hayashi, Masaharu; Suzuki, Tadayuki; Kamei, Masatoshi

PA Kao Corporation, Japan; Hayashi, Masaharu; Suzuki, Tadayuki; Kamei, Masatoshi

SO PCT Int. Appl., 18 pp.  
CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C05G003-00  
ICS C05G005-00; C05D003-00; C05C005-04; C05F011-00; A01N059-00;  
A01N059-06

CC 19-6 (Fertilizers, Soils, and Plant Nutrition)

FAN.CNT 1

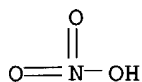
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9806681	A1	19980219	WO 1997-JP2786	19970808 <--

W: CN, US  
 RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
 JP 10053483 A2 19980224 JP 1996-211118 19960809 <--  
 JP 3135503 B2 20010219  
 TW 381069 B 20000201 TW 1997-86111309 19970807 <--  
 EP 860410 A1 19980826 EP 1997-934749 19970808 <--  
 R: DE, GB, IT  
 CN 1198729 A 19981111 CN 1997-191056 19970808 <--  
 US 6206946 B1 20010327 US 1998-51278 19980407 <--  
 PRAI JP 1996-211118 A 19960809 <--  
 WO 1997-JP2786 W 19970808 <--

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9806681	ICM	C05G003-00
	ICS	C05G005-00; C05D003-00; C05C005-04; C05F011-00; A01N059-00; A01N059-06
WO 9806681	ECLA	C05G003/00B10; C05G003/06 <--
EP 860410	ECLA	C05G003/00B10; C05G003/06 <--
AB		The accelerator contains a <b>surfactant</b> and heptonic acid (or salt thereof). The <b>surfactant</b> may be selected from nonionic, anionic and amphoteric <b>surfactants</b> . The heptonic acid is selected from glucoheptonic acid, mannoheptonic acid, galaheptonic acid, and K, Na, Ca, alkanolamine salts, and aliphatic amine salts of these acids.
ST		fertilizer absorption accelerator heptonate <b>surfactant</b>
IT		<b>Surfactants</b> (as accelerators of plant absorption of fertilizer)
IT		Fertilizers RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses) ( <b>surfactants</b> as accelerators of plant absorption of fertilizer)
IT		62-54-4, Calcium acetate 140-99-8, Calcium succinate 299-28-5, Calcium gluconate 471-34-1, Calcium carbonate, biological studies 544-17-2, Calcium formate 563-72-4 814-80-2, Calcium lactate 996-23-6 3164-34-9, Calcium tartrate, biological studies 7693-13-2, Calcium citrate 7778-18-9, Calcium sulfate 8014-93-5, <b>Ethylenediaminetetraacetic</b> acid calcium salt 10043-52-4, Calcium chloride, biological studies 10124-37-5, <b>Calcium nitrate</b> 17482-42-7, Calcium malate 22322-28-7 33242-26-1, Glycine calcium salt 95994-81-3 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) ( <b>surfactants</b> as accelerators of plant absorption of fertilizer containing)
IT		2782-86-7D, Heptonic acid, salts 7440-09-7D, Potassium, salts of heptonic acid derivs., biological studies 7440-23-5D, Sodium, salts of heptonic acid derivs., biological studies 7440-70-2D, Calcium, salts of heptonic acid derivs., biological studies 23351-51-1D, Glucoheptonic acid, salts 136599-01-4D, Galaheptoic Acid, salts 203741-77-9D, salts RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (with <b>surfactants</b> as accelerators of plant absorption of fertilizer)
RE.CNT 2		THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE		(1) Kao Corp; JP 07-232982 A 1995 HCAPLUS (2) Sociedadanonima Cros; FR 1543509 A 1968 HCAPLUS
IT		10124-37-5, <b>Calcium nitrate</b> RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) ( <b>surfactants</b> as accelerators of plant absorption of fertilizer containing)
RN		10124-37-5 HCAPLUS

CN Nitric acid, calcium salt (8CI, 9CI) (CA INDEX NAME)



● 1/2 Ca

L96 ANSWER 13 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1997:540454 HCAPLUS  
 DN 127:132288  
 ED Entered STN: 25 Aug 1997  
 TI **Rest-breaking** compositions for deciduous fruit trees,  
 comprising activity-promoting additives  
 IN Butselaar, Robert Jan  
 PA **Akzo Nobel N.V., Neth.**; Butselaar, Robert Jan  
 SO PCT Int. Appl., 27 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM A01N033-08  
 ICS A01N033-12; A01N033-24; A01N059-00; A01N059-06; A01N059-16  
 CC 5-3 (**Agrochemical** Bioregulators)  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9724926	A1	19970717	WO 1996-EP5880	19961220 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9713083	A1	19970801	AU 1997-13083	19961220 <--
ZA 9700024	A	19970711	ZA 1997-24	19970102 <--
PRAI EP 1996-200018	A	19960104	<--	
WO 1996-EP5880	W	19961220	<--	

## CLASS

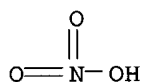
PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9724926	ICM	A01N033-08
	ICS	A01N033-12; A01N033-24; A01N059-00; A01N059-06; A01N059-16

AB **Rest-breaking** compns. are disclosed comprising at least one **rest-breaking** agent selected from **calcium nitrate, ammonium nitrate, calcium ammonium nitrate, urea ammonium nitrate, and zinc ammonium nitrate**, in conjunction with one or more activity promoting additives selected from **alkoxylated amines, quaternary ammonium compds. and amine oxides**. The activity promoting additives enhance the activity of **rest-breaking** agents thereby leading to improvements in the yields and quality of fruit from deciduous fruit trees in regions which have mild winter weather conditions.

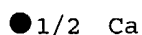
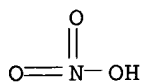
ST **rest breaking** compn deciduous fruit tree



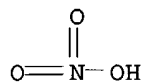
- IT Amine oxides  
**Quaternary ammonium compounds, biological studies**  
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)  
 (activity-promoting additive for **rest-breaking**  
 agents for deciduous fruit trees)
- IT Fruit tree  
 (activity-promoting additives for **rest-breaking**  
 agents for deciduous fruit trees)
- IT Hormones, plant  
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)  
 (activity-promoting additives for **rest-breaking**  
 agents for deciduous fruit trees)
- IT Amines, biological studies  
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)  
 (alkoxylated; activity-promoting additive for **rest-**  
**breaking** agents for deciduous fruit trees)
- IT Amines, biological studies  
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)  
 (diamines, N-tallow alkylalkylenediamines, ethoxylated propoxylated;  
 activity-promoting additive for **rest-breaking**  
 agents for deciduous fruit trees)
- IT 6484-52-2, Ammonium nitrate, biological  
 studies 10124-37-5, Calcium nitrate  
 15245-12-2, Calcium ammonium nitrate  
 15978-77-5, Urea ammonium nitrate  
 73376-28-0  
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)  
 (activity-promoting additives in **rest-breaking**  
 compns. for deciduous fruit trees)
- IT 6484-52-2, Ammonium nitrate, biological  
 studies 10124-37-5, Calcium nitrate  
 15245-12-2, Calcium ammonium nitrate  
 15978-77-5, Urea ammonium nitrate  
 73376-28-0  
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)  
 (activity-promoting additives in **rest-breaking**  
 compns. for deciduous fruit trees)
- RN 6484-52-2 HCAPLUS
- CN Nitric acid ammonium salt (8CI, 9CI) (CA INDEX NAME)



- RN 10124-37-5 HCAPLUS
- CN Nitric acid, calcium salt (8CI, 9CI) (CA INDEX NAME)



RN 15245-12-2 HCAPLUS  
CN Nitric acid, ammonium calcium salt (8CI, 9CI) (CA INDEX NAME)



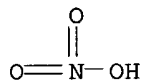
●x Ca

●x NH<sub>3</sub>

RN 15978-77-5 HCAPLUS  
CN Nitric acid ammonium salt, mixt. with urea (9CI) (CA INDEX NAME)

CM 1

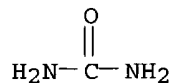
CRN 6484-52-2  
CMF H3 N . H N O3



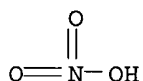
● NH<sub>3</sub>

CM 2

CRN 57-13-6  
CMF C H4 N2 O



RN 73376-28-0 HCAPLUS  
CN Nitric acid, ammonium zinc salt (9CI) (CA INDEX NAME)



●x NH<sub>3</sub>

●x Zn

L96 ANSWER 14 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1997:200753 HCAPLUS  
 DN 126:196382  
 ED Entered STN: 27 Mar 1997  
 TI Effects of chemicals on bud **break** of pistachios under mild  
 climate conditions  
 AU Kuden, A. B.; Kuden, A.; Nikpeyma, Y.; Kaska, N.  
 CS Dept. of Horticulture, Faculty of Agriculture, Univ. of Cukurova, Adana,  
 01330, Turk.  
 SO Acta Horticulturae (1995), 419, 91-96  
 CODEN: AHORA2; ISSN: 0567-7572  
 PB International Society for Horticultural Science  
 DT Journal  
 LA English  
 CC 5-3 (Agrochemical Bioregulators)  
 AB **KNO3** (2%) and Dormex (1% and 2%) and the combinations of  
**KNO3** and Dormex with **Armobreak** (1%) were used to  
**break** bud dormancy of pistachio cultivars (Antep, Siirt and Ohadi)  
 and Male-1 type. **Armobreak**+Dormex applications was more  
 effective than **KNO3** or **Armobreak**+**KNO3**  
 applications on **breaking** dormancy of both flower and vegetative  
 buds of Siirt female cultivar. Similar effects were obtained for Male-1  
 type. Although the chilling requirement of Ohadi cultivar was higher than  
 that of Antep and Siirt cultivars, **KNO3** application was more  
 successful on **breaking** dormancy of Ohadi flower buds (Kuden,  
 A.B. et al., 1992).  
 ST bud **break** agents pistachio  
 IT Pistachio (Pistacia vera)  
 (agents for bud **break** of)  
 IT Leaf  
 Leaf  
 (bud; agents for bud **break** of)  
 IT Amines, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (diamines, N-tallow alkylalkylenediamines, ethoxylated propoxylated;  
 penetration facilitator for chems. to effect bud **break** of  
 pistachio)  
 IT 156-62-7, Dormex 7757-79-1, **Potassium nitrate**  
 , biological studies  
 RL: **AGR** (Agricultural use); **BIOL** (Biological study); **USES** (Uses)  
 (bud **break** of pistachio by)  
 IT 7757-79-1, **Potassium nitrate**, biological  
 studies  
 RL: **AGR** (Agricultural use); **BIOL** (Biological study); **USES** (Uses)  
 (bud **break** of pistachio by)  
 RN 7757-79-1 HCAPLUS  
 CN Nitric acid potassium salt (8CI, 9CI) (CA INDEX NAME)

RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)  
 (dormancy-breaking, activity enhancement of fruit-tree  
 dormancy-breaking agents by **alkoxylated  
 amines**)

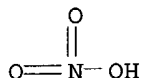
IT Petroleum products  
 (oils, winter oil; activity enhancement of fruit-tree dormancy-  
 breaking agents by **alkoxylated amines**)

IT **Amides**, biological studies  
 RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)  
 (tallow, N,N-bis(hydroxyethyl), ethoxylated propoxylated, activity  
 enhancement of fruit-tree dormancy-breaking agents by  
**alkoxylated amines**)

IT 156-62-7, Dormex 534-52-1, DNOC 7757-79-1, **Potassium  
 nitrate**, biological studies  
 RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)  
 (activity enhancement of fruit-tree dormancy-breaking agents  
 by **alkoxylated amines**)

IT 7757-79-1, **Potassium nitrate**, biological  
 studies  
 RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)  
 (activity enhancement of fruit-tree dormancy-breaking agents  
 by **alkoxylated amines**)

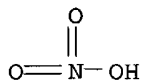
RN 7757-79-1 HCAPLUS  
 CN Nitric acid potassium salt (8CI, 9CI) (CA INDEX NAME)



● K

L96 ANSWER 16 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:126790 HCAPLUS  
 DN 124:168275  
 ED Entered STN: 01 Mar 1996  
 TI Activity promoting additives for **rest-breaking** agents  
 IN Parr, William John Ernest; Butselaar, Robert Jan; North, Michael Shaun  
 PA **Akzo Nobel N.V., Neth.**  
 SO PCT Int. Appl., 26 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM A01N033-12  
 ICS A01N033-08; A01N025-30  
 ICI A01N033-08, A01N061-00, A01N059-24, A01N059-06, A01N059-00, A01N047-28,  
 A01N025-30; A01N033-12, A01N061-00, A01N059-24, A01N059-06, A01N059-00,  
 A01N047-28, A01N025-30  
 CC 5-3 (**Agrochemical Bioregulators**)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9601049	A1	19960118	WO 1995-EP2575	19950703 <--
	W: AU, BR, MX, NZ, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9529266	A1	19960125	AU 1995-29266	19950703 <--
	EP 768820	A1	19970423	EP 1995-924966	19950703 <--
	R: ES, FR, GR, IT, PT				
	BR 9508227	A	19971028	BR 1995-8227	19950703 <--



● K

L96 ANSWER 15 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:404955 HCAPLUS  
 DN 125:51504  
 ED Entered STN: 13 Jul 1996  
 TI Dormancy-breaking compositions for fruit trees.  
 IN North, Michael Shaun; Butselaar, Robert Jan  
 PA Akzo Nobel N.V., Neth.  
 SO Braz. Pedido PI, 11 pp.  
 CODEN: BPXXDX  
 DT Patent  
 LA Portuguese  
 IC ICM A01N033-12  
 ICS A01N033-08; A01N025-30  
 CC 5-3 (Agrochemical Bioregulators)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	BR 9406432	A	19960109	BR 1994-6432	19940414 <--
	EP 620970	A1	19941026	EP 1993-201138	19930420 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	ZA 9303611	A	19931220	ZA 1993-3611	19930524 <--
	WO 9423574	A1	19941027	WO 1994-EP1180	19940414 <--
	W: AU, BR, NZ, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9465692	A1	19941108	AU 1994-65692	19940414 <--
	AU 678464	B2	19970529		
	EP 701399	A1	19960320	EP 1994-913606	19940414 <--
	EP 701399	B1	19970122		
	R: ES, FR, GR, IT, PT				
	ES 2097045	T3	19970316	ES 1994-913606	19940414 <--
	IL 109341	A1	19980924	IL 1994-109341	19940418 <--
	US 5693591	A	19971202	US 1995-535280	19951227 <--
PRAI	EP 1993-201138		19930420	<--	
	EP 1994-913606		19940414	<--	
	WO 1994-EP1180		19940414	<--	

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
BR 9406432	ICM	A01N033-12
	ICS	A01N033-08; A01N025-30
OS	MARPAT 125:51504	
AB	The activity of known dormancy <b>breakers</b> , such as Dormex, K nitrate and DNOC, optionally in combination with winter oil, is enhanced by <b>alkoxylated amines</b> (Markush given), specifically <b>Armoblen ACER 89002</b> .	
ST	dormancy <b>breaking</b> fruit tree <b>alkoxylated amine</b>	
IT	<b>Amines</b> , biological studies	
	RL: <b>AGR (Agricultural use)</b> ; <b>BIOL (Biological study)</b> ; <b>USES (Uses)</b> (alkoxylated, activity enhancement of fruit-tree dormancy-breaking agents by <b>alkoxylated amines</b> )	
IT	Plant hormones and regulators	

ZA 9505543	A	19960216	ZA 1995-5543	19950704 <--
US 5885932	A	19990323	US 1997-765330	19970528 <--
PRAI US 1994-270857		19940705	<--	
WO 1995-EP2575		19950703	<--	

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9601049	ICM	A01N033-12
	ICS	A01N033-08; A01N025-30
	ICI	A01N033-08, A01N061-00, A01N059-24, A01N059-06, A01N059-00, A01N047-28, A01N025-30; A01N033-12, A01N061-00, A01N059-24, A01N059-06, A01N059-00, A01N047-28, A01N025-30
AB		The title additives are <b>alkoxylated amines</b> or <b>alkoxylated quaternary ammonium</b> compds. (Markush given), such as <b>Armobreak</b> ( <b>alkoxylated tallow amine</b> ). The <b>rest-breaking</b> agents are Dormex, <b>Ca ammonium nitrate</b> , <b>urea ammonium nitrate</b> , K nitrate, K gibberellate, kinetin, IAA or thiourea.,. The process <b>breaks</b> the rest of bushes, nuts, berries and nondeciduous fruit trees, is disclosed.
ST		plant <b>rest breaking</b> agents activity promoters
IT		Almond Blackberry Chestnut Cranberry Grape Loganberry Raspberry Strawberry Walnut (activity-promoting additives for <b>rest-breaking</b> agents)
IT		Plant hormones and regulators RL: <b>AGR (Agricultural use)</b> ; BIOL (Biological study); USES (Uses) ( <b>rest-breaking</b> agents; activity-promoting additives for)
IT		Amines, biological studies RL: <b>AGR (Agricultural use)</b> ; BIOL (Biological study); USES (Uses) (N-tallow alkylalkylenedi-, ethoxylated propoxylated, <b>Armobreak</b> ; activity promoting additive for <b>rest-breaking</b> agents)
IT		Currant (Ribes) (Ribes nigrum, activity-promoting additives for <b>rest-breaking</b> agents)
IT		Amines, biological studies <b>Quaternary ammonium compounds, biological studies</b> RL: <b>AGR (Agricultural use)</b> ; BIOL (Biological study); USES (Uses) ( <b>alkoxylated</b> , activity-promoting additive for <b>rest-breaking</b> agents)
IT		Currant (Ribes) (red, activity-promoting additives for <b>rest-breaking</b> agents)
IT		62-56-6, Thiourea., biological studies 87-51-4, Iaa, biological studies 125-67-7, Potassium gibberellate 156-62-7, Dormex 525-79-1, Kinetin 7757-79-1, Potassium nitrate, biological studies 15245-12-2, Calcium ammonium nitrate 15978-77-5, Urea ammonium nitrate RL: <b>AGR (Agricultural use)</b> ; BIOL (Biological study); USES (Uses) ( <b>rest-breaking</b> agents; activity-promoting additives for)
IT		7757-79-1, Potassium nitrate, biological

studies 15245-12-2, Calcium ammonium

nitrate 15978-77-5, Urea ammonium

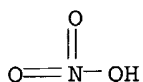
nitrate

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)

(rest-breaking agents; activity-promoting additives  
for)

RN 7757-79-1 HCAPLUS

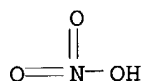
CN Nitric acid potassium salt (8CI, 9CI) (CA INDEX NAME)



● K

RN 15245-12-2 HCAPLUS

CN Nitric acid, ammonium calcium salt (8CI, 9CI) (CA INDEX NAME)



●x Ca

●x NH<sub>3</sub>

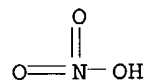
RN 15978-77-5 HCAPLUS

CN Nitric acid ammonium salt, mixt. with urea (9CI) (CA INDEX NAME)

CM 1

CRN 6484-52-2

CMF H3 N : H N O3

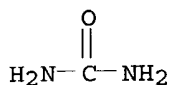


● NH<sub>3</sub>

CM 2

CRN 57-13-6

CMF C H4 N2 O



L96 ANSWER 17 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1992:123288 HCAPLUS  
 DN 116:123288  
 ED Entered STN: 03 Apr 1992  
 TI Herbicidal aqueous solutions of glyphosate  
 IN Darchy, Francois; Zobel, Jean Claude  
 PA Rhone-Poulenc Agrochimie, Fr.  
 SO Ger. Offen., 4 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 IC ICM A01N057-20  
 ICS A01N059-00; A01N025-30; A01N025-02  
 ICA B01F017-14  
 ICI A01N057-20, A01N059-00  
 CC 5-3 (Agrochemical Bioregulators)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4116516	A1	19911128	DE 1991-4116516	19910521 <--
	DE 4116516	C2	20020110		
	FR 2662053	A1	19911122	FR 1990-6543	19900521 <--
	FR 2662053	B1	19920807		
	CA 2042348	AA	19911122	CA 1991-2042348	19910510 <--
	CA 2042348	C	19971230		
	NL 9100837	A	19911216	NL 1991-837	19910514 <--
	DK 9100931	A	19911122	DK 1991-931	19910516 <--
	SE 9101505	A	19911122	SE 1991-1505	19910517 <--
	AU 9177131	A1	19911121	AU 1991-77131	19910520 <--
	AU 641761	B2	19930930		
	HU 57538	A2	19911230	HU 1991-1678	19910520 <--
	JP 04226904	A2	19920817	JP 1991-114851	19910520 <--
	JP 2944003	B2	19990830		
	ES 2035773	A1	19930416	ES 1991-1213	19910520 <--
	ES 2035773	B1	19940401		
	GB 2245170	A1	19920102	GB 1991-10926	19910521 <--
	GB 2245170	B2	19940209		
	US 5180414	A	19930119	US 1991-703722	19910521 <--
PRAI	FR 1990-6543	A	19900521	<--	

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 4116516	ICM	A01N057-20
	ICS	A01N059-00; A01N025-30; A01N025-02
	ICA	B01F017-14
	ICI	A01N057-20, A01N059-00

OS MARPAT 116:123288

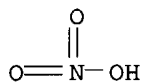
AB Glyphosate or its salts are formulated with ethoxylated phosphates  
 $\text{RO}(\text{CH}_2\text{CH}_2\text{O})_n\text{P}(\text{O})(\text{OM})_2$  (R = C4-12 alkyl; M = H, Na,  $\text{NH}_4$ ,  
 alkylammonium; n = 2-10). The phosphates were **surfactants**  
 and activators. A formulation (pH 6-7; iso-PrNH<sub>2</sub>) comprised 100 g  
 glyphosate isopropylammonium salt, 300 g BuO(CH<sub>2</sub>CH<sub>2</sub>O)<sub>3</sub>P(O)(OH)<sub>2</sub>, and water  
 to 1 L. The formulation was stable, even when kept at 50° for 1 h.  
 The formulation is compatible with NH<sub>4</sub> salt activators.

ST glyphosate aq soln ethoxylated phosphate

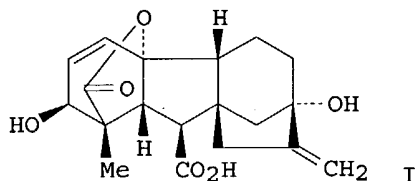
IT Agrochemical formulations



(herbicidal, of glyphosate, ethoxylated phosphate-containing)  
 IT 1071-83-6, Glyphosate 38641-94-0  
 RL: PROC (Process)  
 (formulation of, as aqueous solution, ethoxylated phosphates in)  
 IT 96123-60-3  
 RL: BIOL (Biological study)  
 (glyphosate aqueous solution containing)  
 IT 25852-91-9D, salts  
 RL: BIOL (Biological study)  
 (glyphosate aqueous solns. containing)  
 IT 1762-95-4 6484-52-2, Ammonium nitrate,  
 biological studies 7773-06-0 10124-31-9, Ammonium phosphate  
 RL: BIOL (Biological study)  
 (glyphosate aqueous solns. containing ethoxylated phosphates and)  
 IT 6484-52-2, Ammonium nitrate, biological  
 studies  
 RL: BIOL (Biological study)  
 (glyphosate aqueous solns. containing ethoxylated phosphates and)  
 RN 6484-52-2 HCAPLUS  
 CN Nitric acid ammonium salt (8CI, 9CI) (CA INDEX NAME)



L96 ANSWER 18 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1982:486959 HCAPLUS  
 DN 97:86959  
 ED Entered STN: 12 May 1984  
 TI Effectiveness of combined application of **chlorocholine** chloride  
 and gibberellin on seedless grape varieties in relation to water-nutrient  
 status  
 AU Smirnov, K. V.; Radzhabov, A. K.  
 CS USSR  
 SO Nov. Priemy Vozdelyvaniya Plodovykh Rast. (1981), 32-7.  
 Editor(s): Puponin, A. I.; Faustov, V. V. Publisher: Mosk. S-kh. Akad.,  
 Moscow, USSR.  
 CODEN: 48BWAB  
 DT Conference  
 LA Russian  
 CC 5-3 (Agrochemical Bioregulators)  
 Section cross-reference(s): 19  
 GI



AB Spraying grapes with 0.075% CCC (**chlorocholine** chloride) [

999-81-5] 15-20 days before flowering, increased the resistance to drought and retarded spur growth which enhanced nutrient conversion to fruit under high doses of fertilizers. Therefore, CCC was more effective under irrigation maintained  $\geq 70\%$  full field capacity during the entire growth season than under a more abundant irrigation regime maintaining  $\geq 85\%$  full moisture capacity before the onset of fruit ripening and  $\geq 70\%$  full moisture capacity only during ripening. CCC also was more effective when ammophos +  $\text{NH}_4\text{NO}_3$  + KCl delivered 200 kg N + 200 kg P + 200 kg K/ha, than at N 120, P 90, and K 30 kg/ha or N 100, P 100, and K 100 kg/ha. CCC gave a better aftereffect in the year following application than was the effect in the year of application. Spraying 20 mg gibberellic acid (I) [77-06-5]/L before flowering, followed by 100 mg I/L at the end of flowering increased the grape yield 70.2% under the more abundant irrigation and 63.9% under the lower moisture regime. I was more effective than CCC in the year of application, and combining I with CCC gave the best results. I increased the grape yield mainly by increasing the 1-berry-weight, whereas CCC increased fruit set. The concomitant application of I and CCC increased the bunch weight 94.0% and the

#### 1-berry-weight

57.2% under the more abundant irrigation and N 100 + P 100 + K 100 kg/ha. Increasing K from 30 to 100 kg/ha, combined with a decrease of N from 120 to 100 kg/ha, raised the grape juice sugar content at either irrigation regime. CCC slightly increased the juice acidity. Maximum yield was obtained when the highest fertilizer dose and more abundant irrigation were combined with I + CCC application.

ST grape CCC gibberellin fertilizer irrigation

IT Grape

(fertilizers and irrigation and phyto regulators effect on)

IT Irrigation

(grape response to fertilizers and plant hormones and)

IT Acidity

Carbohydrates and Sugars, biological studies

RL: BIOL (Biological study)

(of grape, CCC and gibberellic acid effect on)

IT Fertilizer experiment

(with grapes, phyto regulators and irrigation effect on growth and yield in)

IT Fertilizers

RL: BIOL (Biological study)

(ammonium nitrate, grape response to irrigation and phyto hormones and)

IT Fertilizers

RL: BIOL (Biological study)

(ammophos, grape response to irrigation and phyto hormones and)

IT Fertilizers

RL: BIOL (Biological study)

(potassium chloride, grape response to irrigation and phyto hormones and)

IT 77-06-5 999-81-5

RL: BIOL (Biological study)

(grape response to fertilizers and irrigation and)

IT 999-81-5

RL: BIOL (Biological study)

(grape response to fertilizers and irrigation and)

RN 999-81-5 HCAPLUS

CN Ethanaminium, 2-chloro-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

Me<sub>3</sub>N<sup>+</sup>-CH<sub>2</sub>-CH<sub>2</sub>Cl

● Cl<sup>-</sup>

L96 ANSWER 19 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1982:405257 HCAPLUS  
 DN 97:5257  
 ED Entered STN: 12 May 1984  
 TI Influence of rhizosphere on the nutrient status of dwarf French beans  
 AU Sarkar, A. N.; Wyn Jones, R. G.  
 CS Dep. Biochem. Soil Sci., Univ. Coll. North Wales, Bangor/Caerns./Gwynedd, UK  
 SO Plant and Soil (1982), 64(3), 369-80  
 CODEN: PLSOA2; ISSN: 0032-079X  
 DT Journal  
 LA English  
 CC 19-5 (Fertilizers, Soils, and Plant Nutrition)  
 AB In pot expts., the effects of 3 N sources (NH<sub>4</sub>Cl, **choline chloride** [67-48-1], and Ca(NO<sub>3</sub>)<sub>2</sub>), 2 N levels (500 and 1000 ppm N), 2 initial soil pH levels (pH 7 and 8), and 2 growth phases (21 and 42 days) on the nutrient status and rhizosphere-plant interaction in dwarf French beans (*Phaseolus vulgaris*) were studied. **Choline chloride** (T2) treatment caused a greater pH drop in the rhizosphere than NH<sub>4</sub>Cl (T1) or Ca(NO<sub>3</sub>)<sub>2</sub> (T3) treatments. Depletions in the concns. of water-soluble ions and extractable P in the rhizosphere compared the bulk soil were observed. Na<sup>+</sup>, K<sup>+</sup> in the rhizosphere decreased with advancement in growth stage. The higher level of N increased the water-soluble K<sup>+</sup>, Ca<sup>2+</sup>, Mg<sup>2+</sup>, and NO<sub>3</sub><sup>-</sup> contents of both rhizospheric and nonrhizospheric soils. NH<sub>4</sub>Cl and **choline chloride** increased the concns. of water-soluble K<sup>+</sup>, Na<sup>+</sup>, Ca<sup>2+</sup>, and Mg<sup>2+</sup> more than did Ca(NO<sub>3</sub>)<sub>2</sub>. A higher extractable H<sub>2</sub>PO<sub>4</sub><sup>-</sup> level was strongly associated with Ca(NO<sub>3</sub>)<sub>2</sub> treatment compared to **choline chloride** and NH<sub>4</sub>Cl treatments. The levels of Fe, Mn, and Zn were higher in the rhizospheric than in the nonrhizospheric soil. The effect of fertilizer treatments on the extractable Fe and Mn was in order T1 > T3 = T2 and for the extractable Zn the order was T2 > T1 = T3. The levels of organic C and bacterial and fungal counts increased in rhizosphere compared to nonrhizospheric soil. NH<sub>4</sub>Cl and **choline chloride** resulted in higher root yields than the Ca(NO<sub>3</sub>)<sub>2</sub> treatment. The concentration of K<sup>+</sup>, Na<sup>+</sup>, Ca<sup>2+</sup>, and Mg<sup>2+</sup> in roots decreased in the advances phase of growth. The root uptake of K<sup>+</sup> and Na<sup>+</sup> was higher at lower initial pH, while the reverse was true for Ca<sup>2+</sup> uptake. Lower initial level of N application increased the Ca<sup>2+</sup> and Mg<sup>2+</sup> status of the roots. **Choline chloride** treatment was better than NH<sub>4</sub>Cl in promoting growth, whereas Ca(NO<sub>3</sub>)<sub>2</sub> had an intermediate effect. The higher level of N drastically inhibited the growth in the 2nd phase. N content increased in shoots with growth and increasing rate of N applied. Higher Ca<sup>2+</sup> accumulation in the shoots was associated with a higher N dose and a higher initial soil pH. P accumulation in the shoots increased at lower initial pH, but the shoot concentration of P dropped after 42 days of growth. The sources of N affected the P content shoots in the order: T1 > T2 > T3.  
 ST nitrogen fertilizer bean soil rhizosphere; **choline chloride** bean soil rhizosphere; **calcium nitrate** bean soil rhizosphere; ammonium chloride bean soil rhizosphere; mineral nutrition bean nitrogen source

IT Plant nutrition  
(mineral, of bean, rhizosphere and nitrogen source effects on)

IT Bean  
(nutrient status of, rhizosphere effect on, nitrogen source in relation to)

IT Root absorption  
(of nutrients, by bean, rhizosphere effect on, nitrogen source in relation to)

IT Fertilizer experiment  
(with nitrogen rates and sources, bean mineral nutrition in, rhizospheric soil and soil pH effects on)

IT Soils  
(rhizospheric, nutrients in, nitrogen source effect on, bean nutrition in relation to)

IT 67-48-1 10124-37-5 12125-02-9, biological studies  
RL: BIOL (Biological study)  
(as nitrogen source, nutrients in rhizospheric soil and bean nutrition in relation to)

IT 7439-95-4, biological studies 7440-23-5, biological studies 7440-70-2, biological studies 14797-55-8, biological studies  
RL: BIOL (Biological study)  
(in rhizospheric soil and bean plants, nitrogen rate and source effect on)

IT 67-48-1 10124-37-5  
RL: BIOL (Biological study)  
(as nitrogen source, nutrients in rhizospheric soil and bean nutrition in relation to)

RN 67-48-1 HCAPLUS

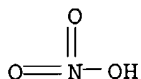
CN Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

$\text{Me}_3\text{N}^+\text{CH}_2\text{CH}_2\text{OH}$

●  $\text{Cl}^-$

RN 10124-37-5 HCAPLUS

CN Nitric acid, calcium salt (8CI, 9CI) (CA INDEX NAME)



●  $\frac{1}{2} \text{Ca}$

L96 ANSWER 20 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1981:545204 HCAPLUS

DN 95:145204

ED Entered STN: 12 May 1984

TI Detoxication of 2,4-D in winter wheat under various levels of nitrogen and **chlorocholine** chloride supplement

AU Lunev, M. I.; Gruzdev, L. G.

CS Tsentr. Inst. Agrokhim. Obsluzh. S-kh, USSR

SO Doklady Vsesoyuznoi Akademii Sel'skokhozyaistvennykh Nauk imeni V. I. Lenina (1981), (8), 19-21

CODEN: DVASAW; ISSN: 0042-9244

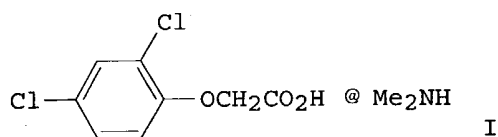
DT Journal

LA Russian

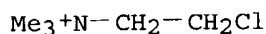
CC 5-3 (Agrochemicals)

Section cross-reference(s): 19

GI



- AB Combining 1 kg 2,4-D amine (I) [2008-39-1]/ha with 4 kg CCC [999-81-5]/ha on tillering winter wheat retarded the I detoxication, and fertilizing with 30 or 90 kg NH<sub>4</sub>NO<sub>3</sub>/ha aggravated this delay in a dose-dependent manner.
- ST wheat dichlorophenoxyacetate detoxication CCC fertilizer
- IT Detoxication  
(of 2,4-D amine by wheat, CCC and ammonium nitrate inhibition of)
- IT Fertilizers  
RL: BIOL (Biological study)  
(ammonium nitrate, 2,4-D amine detoxication by wheat inhibition by CCC and)
- IT Wheat  
(winter, 2,4-D amine detoxication by, CCC and ammonium nitrate inhibition of)
- IT 999-81-5  
RL: BIOL (Biological study)  
(2,4-D amine detoxication by wheat inhibition by)
- IT 2008-39-1  
RL: BIOL (Biological study)  
(wheat detoxication of, CCC and ammonium nitrate inhibition of)
- IT 999-81-5  
RL: BIOL (Biological study)  
(2,4-D amine detoxication by wheat inhibition by)
- RN 999-81-5 HCAPLUS
- CN Ethanaminium, 2-chloro-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



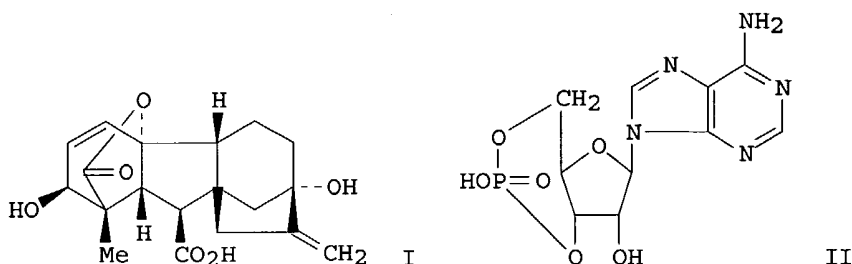
- L96 ANSWER 21 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN
- AN 1980:490086 HCAPLUS
- DN 93:90086
- ED Entered STN: 12 May 1984
- TI Effect of fertilizers enriched with chlorocholine chloride (TUR) on the development and productivity of potatoes
- AU Kiryukhin, V. P.; Chugunova, L. V.

CS USSR  
 SO Biol. Osnovy Povysh. Urozhainosti S.-kh. Kul'tur, M. (1979) 27-9  
 From: Ref. Zh., Rasteniyevod. 1980, Abstr. No. 355264  
 DT Journal  
 LA Russian  
 CC 5-3 (Agrochemicals)  
 AB Title only translated.  
 ST potato fertilizer TUR  
 IT Potato  
 (TUR and fertilizers effect on)  
 IT Fertilizers  
 RL: BIOL (Biological study)  
 (ammonium nitrate, potato response to TUR and)  
 IT Fertilizers  
 RL: BIOL (Biological study)  
 (superphosphate, potato response to TUR and)  
 IT 999-81-5  
 RL: BIOL (Biological study)  
 (potato response to fertilizers and)  
 IT 999-81-5  
 RL: BIOL (Biological study)  
 (potato response to fertilizers and)  
 RN 999-81-5 HCAPLUS  
 CN Ethanaminium, 2-chloro-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

$\text{Me}_3^+\text{N}-\text{CH}_2-\text{CH}_2\text{Cl}$

●  $\text{Cl}^-$

L96 ANSWER 22 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1977:974 HCAPLUS  
 DN 86:974  
 ED Entered STN: 12 May 1984  
 TI Germination behavior of Florida pusley seeds. II. Effects of  
 germination-stimulating chemicals  
 AU Paul, K. B.; Crayton, J. L.; Biswas, P. K.  
 CS Dep. Plant Soil Sci., Tuskegee Inst., Tuskegee Institute, AL, USA  
 SO Weed Science (1976), 24(4), 349-52  
 CODEN: WEESA6; ISSN: 0043-1745  
 DT Journal  
 LA English  
 CC 5-3 (Agrochemicals)  
 Section cross-reference(s): 11  
 GI



AB Gibberellic acid (I) [77-06-5] successfully replaced the light requirement of both scarified and unscarified seeds in Florida pusley (*Richardia scabra*), whereas cyclic 3',5'-adenosine monophosphate (II) [60-92-4] stimulated the dark germination of scarified seeds only. Cold-stratification reduced seed germinability. The germination inhibition by cold-stratification was reversed by both I and **KNO<sub>3</sub>** treatments. Indole-3-acetic acid [87-51-4], kinetin [525-79-1], thiourea [62-56-6], and **acetylcholine** [51-84-3] either had no effect or reduced the germination percentages of Florida pusley seeds under all conditions studied.

ST Florida pusley germination hormone; *Richardia* germination hormone; gibberellate germination hormone; cyclic AMP germination hormone

IT *Richardia scabra*

(germination by, plant regulators effect on)

IT Germination

(gibberellic acid and cyclic AMP and **potassium nitrate** stimulation of, of Florida pusley)

IT Cold, biological effects

(on germination by Florida pusley, plant regulators in relation to)

IT 51-84-3, biological studies 60-92-4 62-56-6, biological studies 77-06-5 87-51-4, biological studies 525-79-1 7757-79-1, biological studies

RL: BIOL (Biological study)

(germination by Florida pusley response to)

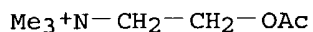
IT 51-84-3, biological studies 7757-79-1, biological studies

RL: BIOL (Biological study)

(germination by Florida pusley response to)

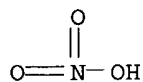
RN 51-84-3 HCAPLUS

CN Ethanaminium, 2-(acetyloxy)-N,N,N-trimethyl- (9CI) (CA INDEX NAME)



RN 7757-79-1 HCAPLUS

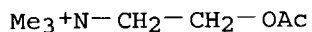
CN Nitric acid potassium salt (8CI, 9CI) (CA INDEX NAME)



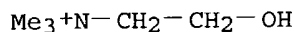
L96 ANSWER 23 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1976:55193 HCAPLUS  
 DN 84:55193  
 ED Entered STN: 12 May 1984  
 TI pH restraints on lettuce fruit germination  
 AU Reynolds, T.  
 CS Jodrell Lab., R. Bot. Gard., Kew/Richmond/Surrey, UK  
 SO Annals of Botany (Oxford, United Kingdom) (1975), 39(162),  
 797-805  
 CODEN: ANBOA4; ISSN: 0305-7364  
 DT Journal  
 LA English  
 CC 5-3 (Agrochemicals)  
 AB The effects of buffers with a range of pH values and of concns. low enough  
 to exert negligible osmotic stress on germination of lettuce (*Lactuca*  
*sativa*) seeds were examnd. No restraints were noted except at extremes of  
 pH. Furthermore, inhibition in HCl [7647-01-0] or KOH [1310-58-3] solns.  
 was not evident below concns. of about 0.05M. Acetic acid [64-19-7] or  
 NH4OH [1336-21-6] was very much more inhibitory but their salt, ammonium  
 acetate [631-61-8], only inhibited when its concentration reached a  
 sufficiently  
 high level to operate by osmotic stress. Inhibition by a series of organic  
 acids and bases showed a pos. correlation with the lipophilic nature of  
 the mol., although there were some unexplained exceptions. In contrast  
 with previous cases of germination inhibition, the effect was not produced  
 by a lowering of the upper temperature cut-off point, but by an overall  
 lowering  
 of total germination at all temps. This indicates a toxic effect of pH  
 extremes rather than a true inhibition.  
 ST pH lettuce seed germination; carboxylic acid seed germination; amine seed  
 germination  
 IT Lettuce  
 (germination of seed of, pH in relation to)  
 IT pH  
 (lettuce seed germination in relation to)  
 IT Germination  
 (pH effect on, in lettuce)  
 IT 50-21-5, biological studies 51-67-2 51-84-3 52-90-4,  
 biological studies 56-40-6, biological studies 56-41-7, biological  
 studies 56-45-1, biological studies 56-84-8, biological studies  
 56-86-0, biological studies 60-18-4, biological studies 60-23-1  
 61-54-1 62-49-7 63-91-2, biological studies 64-18-6,  
 biological studies 64-19-7, biological studies 65-85-0, biological  
 studies 68-11-1, biological studies 70-49-5 73-22-3, biological  
 studies 74-89-5 75-04-7 75-31-0 76-03-9, biological studies  
 77-92-9, biological studies 79-09-4, biological studies 79-11-8,  
 biological studies 79-31-2 79-42-5 79-43-6, biological studies  
 87-51-4, biological studies 87-69-4, biological studies 88-99-3,  
 biological studies 90-64-2 103-82-2, biological studies 107-10-8  
 107-11-9 107-15-3, biological studies 107-92-6, biological studies  
 107-96-0 109-52-4, biological studies 109-76-2 110-15-6, biological  
 studies 110-16-7, biological studies 110-17-8, biological studies  
 110-44-1 110-60-1 110-86-1, biological studies 110-89-4, biological  
 studies 110-94-1 111-14-8 111-16-0 112-05-0 113-00-8 124-04-9,  
 biological studies 124-07-2, biological studies 127-17-3, biological  
 studies 133-32-4 141-43-5, biological studies 141-82-2, biological  
 studies 142-62-1, biological studies 144-62-7, biological studies  
 462-94-2 501-52-0 503-74-2 505-48-6 621-82-9, biological studies  
 625-38-7 631-61-8 646-07-1 1310-58-3, biological studies 1336-21-6  
 1821-12-1 2270-20-4 3724-65-0 6915-15-7 7400-08-0 7647-01-0,  
 biological studies 7664-38-2, biological studies 7664-93-9, biological  
 studies 7697-37-2, biological studies 36541-31-8  
 RL: BIOL (Biological study)



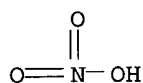
(lettuce seed germination in relation to)  
 IT 830-96-6  
 RL: BIOL (Biological study)  
 (lettuce seed germination in response to)  
 IT 51-84-3 62-49-7 7697-37-2, biological studies  
 RL: BIOL (Biological study)  
 (lettuce seed germination in relation to)  
 RN 51-84-3 HCAPLUS  
 CN Ethanaminium, 2-(acetyloxy)-N,N,N-trimethyl- (9CI) (CA INDEX NAME)



RN 62-49-7 HCAPLUS  
 CN Ethanaminium, 2-hydroxy-N,N,N-trimethyl- (9CI) (CA INDEX NAME)



RN 7697-37-2 HCAPLUS  
 CN Nitric acid (8CI, 9CI) (CA INDEX NAME)



L96 ANSWER 24 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1972:522914 HCAPLUS  
 DN 77:122914  
 ED Entered STN: 12 May 1984  
 TI Effect of ammonium and nitrate nitrogen, iron chelates, and CCC [**chlorocholine** chloride] on the chlorophyll and carbohydrate levels in leaves of chlorotic periwinkle plants on alkaline soils in Isfahan [Iran]  
 AU Farrahi-Aschtiani, Sadegh  
 CS Inst. Biol., Univ. Isfahan, Isfahan, Iran  
 SO Zeitschrift fuer Pflanzenernaehrung und Bodenkunde (1972), 131(2), 190-6  
 CODEN: ZPBOAL; ISSN: 0044-3263  
 DT Journal  
 LA German  
 CC 5-3 (Agrochemicals)  
 Section cross-reference(s): 19  
 AB In pot expts. with Vinca minor on alkaline soils, high amts. of **calcium nitrate** [10124-37-5] produced chlorosis, followed by a general decrease in plant growth, whereas the same amount of ammonium sulfate [7783-20-2] prevented chlorosis and increased chlorophyll content and production of dry matter. In chlorotic plants the chlorophyll and sugar contents were increased by spraying with iron chelate compds., e.g. Rexenol [12735-98-7], or with CCC [999-81-5].  
 ST nitrogen fertilizer chlorophyll Vinca; iron chelate chlorophyll Vinca; CCC sugar chlorophyll Vinca  
 IT Vinca minor  
 (chlorophylls and carbohydrates of chlorotic, nitrogen form and iron chelate effect on)  
 IT Carbohydrates, biological studies  
 Chlorophylls, biological studies

RL: BIOL (Biological study)  
 (of Vinca minor on alkaline soils, nitrogen form and iron chelate effect on)

IT Chlorosis of plants  
 (of Vinca minor on alkaline soils, nitrogen form in iron chelate effect on)

IT 999-81-5 7783-20-2, biological studies 10124-37-5  
 12735-98-7

RL: BIOL (Biological study)  
 (carbohydrates and chlorophyll of Vinca minor on alkaline soils in relation to)

IT 999-81-5 10124-37-5

RL: BIOL (Biological study)  
 (carbohydrates and chlorophyll of Vinca minor on alkaline soils in relation to)

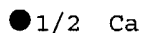
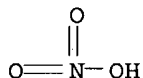
RN 999-81-5 HCAPLUS

CN Ethanaminium, 2-chloro-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



RN 10124-37-5 HCAPLUS

CN Nitric acid, calcium salt (8CI, 9CI) (CA INDEX NAME)



L96 ANSWER 25 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1970:2393 HCAPLUS

DN 72:2393

ED Entered STN: 12 May 1984

TI Effect of the retardant, **chlorocholine** chloride (CCC) on the nitrogen metabolism of plants

AU Kharanyan, N. N.

CS K. A. Timiryazev Inst. Plant Physiol., Moscow, USSR

SO Fiziologiya Rastenii (Moscow) (1969), 16(5), 865-9  
 CODEN: FZRSAB; ISSN: 0015-3303

DT Journal

LA Russian

CC 18 (Plant Growth Regulators)

AB Changes in the N metabolism of bean and horse bean plants in the 2-leaf stage were studied 3, 6, and 10 days after treatment with a 0.2% **chlorocholine** chloride (CCC) solution. Three days after treatment the protein content and the **ammonium**, **nitrate**, and nitrite N in the leaves decreased, while the amount of amide nitrogen somewhat increased. Six days after treatment the protein content was almost the same as in the controls. Between the 3rd and 6th days after treatment N metabolism was disrupted and was characterized by increased amidation. On the 10th day the number of amides still remained high but the amount of protein, ammonium, and nitrite N somewhat increased. During exposure to

drought followed by irrigation the bean plants which had been previously treated with CCC contained almost twice as much protein as the untreated plants, indicating the ability of this compound to retard protein decomposition under unfavorable water regimes.

ST nitrogen metab plants; **chlorocholine** chloride N metab; bean  
response **chlorocholine** chloride; retardant agents plants  
IT Beans  
Broad bean  
(nitrogen metabolism by, **chlorocholine** chloride effect on)  
IT 999-81-5  
RL: BIOL (Biological study)  
(metabolism in response to, of nitrogen by plants)  
IT 7727-37-9, biological studies  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL  
(Biological study); PROC (Process)  
(metabolism of, **chlorocholine** chloride effect on plants)  
IT 999-81-5  
RL: BIOL (Biological study)  
(metabolism in response to, of nitrogen by plants)  
RN 999-81-5 HCAPLUS  
CN Ethanaminium, 2-chloro-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

$\text{Me}_3^+\text{N}-\text{CH}_2-\text{CH}_2\text{Cl}$

●  $\text{Cl}^-$

L96 ANSWER 26 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1969:2648 HCAPLUS  
DN 70:2648  
ED Entered STN: 12 May 1984  
TI Effect of **chlorocholine** chloride on the growth characteristics,  
lodging, and yield of rice  
AU Das, Bhagvan; Vig, A. C.; Bhumbla, D. R.  
CS Punjab Agr. Univ., Punjab, India  
SO Journal of Research (Punjab Agricultural University) (1968),  
5(1), 33-9  
CODEN: JRPUAF; ISSN: 0048-6019  
DT Journal  
LA English  
CC 18 (Plant Growth Regulators)  
AB **Chlorocholine** chloride (I) was applied as a spray at 4 lb./acre  
to rice. Three different levels of fertilizer N (**calcium**  
**ammonium nitrate** at 40, 80, and 120 lb. N/acre) were  
also applied. I reduced the length of basal node, and increased the diameter  
of the 2nd node significantly. A dose of 4 lb. I gave yield responses  
equal to 40 lb. of N fertilizer. However, a combination of 4 lb. I and 40  
lb. N/acre gave a 39% increase in the yield of rice over the fertilizer  
alone.  
ST rice fertilization **chlorocholine**; fertilization rice  
**chlorocholine**; **chlorocholine** rice fertilization  
IT Rice  
(**chlorocholine** chloride effect on)  
IT 999-81-5  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological  
study, unclassified); BIOL (Biological study)  
(rice response to)  
IT 999-81-5

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)  
(rice response to)

RN 999-81-5 HCAPLUS

CN Ethanaminium, 2-chloro-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

$\text{Me}_3^+\text{N}-\text{CH}_2-\text{CH}_2\text{Cl}$

●  $\text{Cl}^-$

L96 ANSWER 27 OF 27 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1968:458519 HCAPLUS

DN 69:58519

ED Entered STN: 12 May 1984

TI Combination possibilities of CCC [chloroethyltrimethylammonium chloride] with herbicides and nitrogen fertilizers in cereals

AU Stryckers, J.; Van Himme, M.

SO Mededelingen Rijksfaculteit Landbouwwetenschappen, Gent (1966),

31(3), 1132-54

CODEN: MRLAB3; ISSN: 0369-1721

DT Journal

LA Dutch

CC 18 (Plant Growth Regulators)

AB Application of the culm shortener CCC to cereals has two side effects, both affecting yields: weeds are less suppressed by the shorter stems, and there is a diminution in length of ears and number of culms. The former can be neutralized with herbicides, the latter prevented by extra N application. It is possible to combine culm shortener, herbicide, and N in one application. N is administrated as urea or ammonium nitrate, about 40 kg./hectare. Choice of the right herbicide is critical and depends on the kind and development phase of the dominant weed. Weed grasses require sep. and repeated treatments. 11 references.

ST weed control cereals; growth regulators cereals; herbicides N CCC cereals; CCC herbicides N cereals; cereals herbicides N CCC; fertilizer N CCC cereals; nitrogen CCC cereals

IT Herbicides

(mixts. with chlorocholine chloride and nitrogen fertilizers and)

IT Fertilizers

RL: BIOL (Biological study)

(nitrogen, mixts. of chlorocholine chloride and herbicides with, for cereal treatment)

IT 999-81-5

RL: BIOL (Biological study)

(mixts. with herbicides and nitrogen fertilizers for cereal treatment)

IT 999-81-5

RL: BIOL (Biological study)

(mixts. with herbicides and nitrogen fertilizers for cereal treatment)

RN 999-81-5 HCAPLUS

CN Ethanaminium, 2-chloro-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

Me<sub>3</sub><sup>+</sup>N-CH<sub>2</sub>-CH<sub>2</sub>Cl

● Cl<sup>-</sup>

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L121 ANSWER 1 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2004-515153 [49] WPIX

DNC C2004-190424

TI Method for treatment of cereal and technical crops.

DC C04

IN MOROZOVSKII, V V; SHEPELEV, V I; STRELKOV, V D

PA (PLAN-R) PLANTS BIOLOG PROTECTION RES INST

CYC 1

PI RU 2231261 C2 20040627 (200449)\* A01N025-00

ADT RU 2231261 C2 RU 2001-116645 20010614

PRAI RU 2001-116645 20010614

IC ICM A01N025-00

AB RU 2231261 C UPAB: 20040802

NOVELTY - Method involves treatment of cereal and technical crops with growth-regulating agents and fertilizers. Method involves using the tank mixture in the following doses, kg/ha: tank mixture, 0.05-0.25; camposan, 0.02-0.125; sodium humate, 0.02-0.1; ammonium nitrate, 1.0-3.5; urea, 1.0-3.5 in the consumption norm of working liquid 200-250 l/ha. Invention provides enhancing the productivity of crops and reducing consumption norm of active substances.

USE - Agriculture.

ADVANTAGE - Improved treatment method. 4 cl, 2 tbl, 3 ex

Dwg. 0/0

FS CPI  
 FA AB  
 MC CPI: C04-A09J; C05-A01B; **C05-C02**; C10-A13C; **C10-A22**;  
 C14-T; **C14-U01**; C14-V02B

L121 ANSWER 2 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2004-515130 [49] WPIX

DNC C2004-190412

TI Complex microfertilizer for supplementary feeding medicinal valerian.

DC C04

IN FURSA, N S; GOROKHOVA, T A; KOROTAEVA, M S; MARSOV, N G; ONEGIN, S V;  
 STEPANOK, V V; TRUBNIKOV, A A

PA (GORO-I) GOROKHOVA T A

CYC 1

PI RU 2230720 C1 20040620 (200449)\* C05D009-02

ADT RU 2230720 C1 RU 2002-129697 20021104

PRAI RU 2002-129697 20021104

IC ICM C05D009-02

AB RU 2230720 C UPAB: 20040802

NOVELTY - Invention relates to using substances accelerating the intensity of biosynthesis of pharmacologically active substances in medicinal plants and can be used in plant growing medicinal plants and phytochemical investigations. Invention involves using the composite of complex mineral fertilizer consisting of the following components as measured for anhydrous salts, weight %: potassium bichromate, 0.01-0.03; manganese sulfate, 0.01-0.03; iron sulfate, 0.02-0.06; cobalt nitrate, 0.0015-0.0035; copper sulfate, 0.12-0.45; zinc sulfate, 0.05-0.09; sodium selenate, 0.004-0.008; potassium iodide, 0.015-0.04; potassium bromide, 0.03-0.07; sodium tetraborate, 0.005-0.011; **ammonium** molybdate, 0.005-0.010; sodium tungstate, 0.00005-0.00009; nickel sulfate, 0.002-0.01; magnesium sulfate, 0.01-0.03; nitric acid, 0.32; water, the balance. Invention provides enhancing the content of pharmacologically active substances in medicinal valerian raw due to leaf feeding with the claimed complex microfertilizer.

USE - Fertilizers, medicinal plants.

ADVANTAGE - Valuable properties of microfertilizer. 5 tbl

Dwg. 0/0

FS CPI  
 FA AB  
 MC CPI: C04-A08; C04-A09; C04-A10; C05-A01A; C05-A01B; C05-A03A; C05-A03B;  
**C05-C01**; **C05-C02**; C05-C05; **C10-A22**;  
 C14-T03; **C14-U02**

L121 ANSWER 3 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2004-412182 [39] WPIX

DNC C2004-154865

TI Nourishing liquid fertilizer for plant and method for preparing the same.

DC C04

IN LI, Z

PA (LIZZ-I) LI Z

CYC 1

PI CN 1482110 A 20040317 (200439)\* C05G003-00

ADT CN 1482110 A CN 2003-135488 20030726

PRAI CN 2003-135488 20030726

IC ICM C05G003-00

ICS C05D009-00; C05G001-00

AB CN 1482110 A UPAB: 20040621

NOVELTY - The liquid fertilizer is compounded with potassium dihydrogen phosphate, potassium nitrate, boric acid, urea, calcium nitrate, magnesium sulfate, zinc sulfate, copper sulfate, manganese sulfate, nickel sulfate, **ammonium** molybdate, iron trichloride or ferrous sulfate, sodium silicate or sodium metasilicate, cane sugar or glucose, nitric acid, phosphoric acid, alcohol, rosin and sulfuric acid. Applying the liquid

fertilizer can avoid pollution to soil, environment and river, and its application is saving in labor. The liquid fertilizer is non-toxic, harmless and pollution-free.

Dwg.0/0

FS CPI

FA AB

MC CPI: C05-A01A; C05-A01B; C05-A03A; C05-B02C; **C05-C01**;  
**C05-C02**; C05-C05; C10-A05; C10-A07; C10-A13B; **C10-A22**  
; C14-T03; **C14-U01**

L121 ANSWER 4 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2003-465601 [44] WPIX

DNC C2003-124099

TI Plant growth-regulating composition comprises **chlorocholine** chloride, poly(oxyethylene(dimethyliminio)ethylene(dimethyliminio)ethylene) dichloride, and **choline** chloride diluted in inert carrier.

DC C03

IN SCHULTEIS, D T

PA (WILB-N) WILBUR-ELLIS CO

CYC 1

PI US 6518221 B1 20030211 (200344)\* 7 A01N033-12 <--

ADT US 6518221 B1 US 2002-194724 20020711

PRAI US 2002-194724 20020711

IC ICM **A01N033-12**

ICS A01N059-06; A01N059-16

AB US 6518221 B UPAB: 20030710

NOVELTY - A plant growth-regulating composition comprises **chlorocholine** chloride, poly(oxyethylene(dimethyliminio)ethylene(dimethyliminio)ethylene) dichloride, **choline** chloride and optionally, inorganic salt(s) diluted in an inert carrier.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method of regulating the growth of plants by mixing a composition of **chlorocholine** chloride, poly(oxyethylene(dimethyliminio)ethylene(dimethyliminio)ethylene) dichloride and **choline** chloride; diluting the composition in an inert carrier, producing a liquid solution; and applying the liquid solution to the foliage of a plant, prior to the harvest of a crop to inhibit the growth of the plant and to increase the crop yield.

ACTIVITY - Plant growth regulator.

A formulation comprised a poly(oxyethylene(dimethyliminio)ethylene(dimethyliminio)ethylene) dichloride to **chlorocholine** chloride ratio of 2.7:1 and a **choline** chloride to **chlorocholine** chloride ratio of 0.6:1 and 5.0% calcium and 1.25% zinc. The rate of application of the plant growth regulator was 2.5 grams per acre, applied once on the first day and again on the twenty-first day. The first fruiting branch percentage of first fruiting positions was 90% and the total percentage of fruit set was 79.2%. An untreated plant gave a first fruiting branch percentage of first fruiting positions of 67.5% and a total percentage of fruit set of 56.7%.

MECHANISM OF ACTION - None given.

USE - For regulating growth of plants (claimed), preferably cotton plants.

ADVANTAGE - The composition improves crop yield.

Dwg.0/2

FS CPI

FA AB; DCN

MC CPI: C04-C03C; C05-A01B; C05-A03A; **C05-C01**; **C05-C02**;  
**C10-A22**; **C14-U01**

TECH UPTX: 20030710

TECHNOLOGY FOCUS - AGRICULTURE - Preferred Composition: The composition comprises, on a weight basis, **chlorocholine** chloride (1 part), poly(oxyethylene(dimethyliminio)ethylene(dimethyliminio)ethylene) dichloride (2.7 parts), and **choline** chloride (0.6 parts). The

inert carrier is water.

Preferred Method: The diluted composition is applied to the plant 2-20 weeks prior to harvest.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Compounds: The inorganic salt is calcium nitrate, calcium chloride, zinc nitrate, zinc chloride, zinc sulfate, **ammonium** nitrate, calcium **ammonium** nitrate, manganese nitrate, manganese sulfate, magnesium nitrate, or magnesium sulfate.

ABEX UPTX: 20030710

ADMINISTRATION - Dosage is 0.5-20 g per hectare.

EXAMPLE - A formulation comprised a poly(oxyethylene(dimethyliminio)ethylene(dimethyliminio)ethylene) dichloride to **chlorocholine** chloride ratio of 2.7:1 and a **choline** chloride to **chlorocholine** chloride ratio of 0.6:1 and 5.0% calcium and 1.25% zinc.

L121 ANSWER 5 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2003-372698 [36] WPIX

DNC C2003-099063

TI Liquid fertilizer for promoting growth and protecting form disease, comprises nitrogen fertilizer, trace elements, plant growing regulator, surfactant and disinfectant including one or more from e.g. captan, and dodine.

DC C04

IN HU, S; HUANG, J

PA (HUAN-N) HUANAN TRACE ELEMENT FERTILIZER FACTORY

CYC 1

PI CN 1178208 A 19980408 (200336)\*

C05G003-00

ADT CN 1178208 A CN 1996-119460 19960927

PRAI CN 1996-119460 19960927

IC ICM C05G003-00

ICS A01N059-00; C05G003-02

AB CN 1178208 A UPAB: 20030609

NOVELTY - A liquid trace-element fertilizer is prepared from nitrogen fertilizer, trace elements, plant growing regulator, surfactant and a disinfectant including one or more from e.g. captan, and dodine. It promotes growth and development of crops, and also helps to prevent and treat crop diseases.

Dwg.0/0

FS CPI

FA AB

MC CPI: C05-C02; C12-M09; C14-T; C14-U01

L121 ANSWER 6 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2002-076864 [11] WPIX

DNC C2002-023135

TI Composition for stimulating plant growth comprises cyclic adenosine monophosphate precursor, phosphodiesterase inhibitor, Adenyl-Cyclase stimulator, beta adrenergic receptor agonist and/or arachidonic acid or prostaglandin.

DC C04

IN CENOZ IMAZ, S; GARCIA-MINA FREIRE, J M; FREIRE, J G; IMAZ, S C

PA (INAB-N) INABONOS SA

CYC 27

PI EP 1147706 A2 20011024 (200211)\* EN 5 A01N061-00

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT

RO SE SI TR

US 2001044383 A1 20011122 (200211)

A01N057-00

ES 2172389 A1 20020916 (200270)

A01N043-90

ES 2172389 B1 20031001 (200376)

A01N043-90

ADT EP 1147706 A2 EP 2001-500090 20010403; US 2001044383 A1 US 2001-829779 20010410; ES 2172389 A1 ES 2000-968 20000413; ES 2172389 B1 ES 2000-968



20000413

PRAI ES 2000-968

20000413

IC ICM A01N043-90; A01N057-00; A01N061-00

ICS A01N031-00; A01N033-10; A01N037-00; A01N037-06; A01N043-16;  
A01N057-36

AB EP 1147706 A UPAB: 20020215

NOVELTY - Growth stimulating composition for plants comprises at least one of the following:

(a) a precursor compound of cyclic adenosine monophosphate (AMP) for its transformation in the latter compound in the interior of cells;

(b) phosphodiesterase inhibitor;

(c) Adenyl-Cyclase stimulator;

(d) beta -adrenergic receptor agonist; and

(e) arachidonic acid or a prostaglandin.

ACTIVITY - Plant growth stimulant.

Dipotassium phosphate (200 g), urea (45 g) and water (753.3 g) were mixed and stirred until dissolved completely. In thus obtained product, forskolin (0.5 g), caffeine (1 g) and 6-bencilaminopurina (0.2 g) were added to obtain a composition (A). Vine plant affected by attack of mildew was treated with by-product of phosphorous acid (3.25 l/hectare) and (A) (2 l/hectare). Untreated plant was used as a control. The results of reduction (%) of disease on leaves for A/control showed 85/- and 78/- respectively. The results indicated that A strengthened the action of the product of synthesis to 23% in relation to frequency and to 175 in relation to intensity.

MECHANISM OF ACTION - None given in the source material.

USE - For stimulating plant growth (claimed).

ADVANTAGE - The composition has a capacity to increase the intra-cellular levels of cyclic AMP as stimulant of plant growth and development in normal conditions and in conditions of stress such as osmotic, hydric, thermic, mechanical or pathogenic attack. The composition can be applied to any species of plant and at any point in its life cycle. The precursor of cyclic AMP has a capacity to increase the intra-cellular content of cyclic AMP in different species of plants thus stimulating plant development unlike prior art.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: C01-B02; C04-A06; C04-B02A; C04-B03B; C05-A01A; C05-B02A3; C05-B02A5;  
C05-C01; C05-C02; C06-A03; C07-A02B; C10-A13C;  
C10-B03B; C14-U01C; C14-U01D

TECH UPTX: 20020215

TECHNOLOGY FOCUS - POLYMERS - Preferred Composition: The phyto regulator product is polyamine.

TECHNOLOGY FOCUS - AGRICULTURE - Preferred Composition: In the composition mineral fertilizer (preferably amonic nitrate or potassium phosphate), phyto regulator product, phytosanitary product (preferably fungicide or herbicide), tensoactive agent or moistening agent is added. Preferred Compounds: Dibutiril-cyclic AMP is the precursor compound of cyclic AMP. The phosphodiesterase inhibitor is theophylline, theobromine or caffeine. Forskolin is the Adenyl-Cyclase stimulator. The beta-adrenergic receptor agonist is isoproterenol, epinephrine (adrenaline) or norepinephrine (noradrenaline).

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Compound: The phyto regulator product is cytoquinine, auxine, gibereline, n-ethanolamine or sugar. The tensoactive agent is Tween 80.

ABEX UPTX: 20020215

ADMINISTRATION - The composition is applied via radicular or foliar with a dosage of 5 - 10 liters or kilos per hectare. The dosage (part per million (ppm)) for precursor compound of cyclic AMP as 0.0 - 2, phosphodiesterase inhibitor as 0.5 - 10, Adenyl-Cyclase stimulator as 0.1 - 2,

beta-adrenergic receptor agonist as 1 - 100 and arachidonic or prostaglandin as 0.25 - 100 is preferred.

L121 ANSWER 7 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2001-202583 [20] WPIX

DNC C2001-060087

TI Composition for breaking rest in deciduous fruit species comprises an organic nitrogen-containing compound with specified molecular weight, an inorganic nitrate rest-breaking agent and a surfactant.

DC A97 C03

IN MACDONALD, B P; WORKEL, H A; MCDONALD, B P

PA (ALKU) AKZO NOBEL NV

CYC 92

PI WO 2001005227 A1 20010125 (200120)\* EN 16 A01N033-12 <--  
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ  
 NL OA PT SD SE SL SZ TZ UG ZW  
 W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES  
 FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS  
 LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL  
 TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
 AU 2000062680 A 20010205 (200128) A01N033-12 <--  
 BR 2000012518 A 20020402 (200231) A01N033-12 <--  
 EP 1194038 A1 20020410 (200232) EN A01N033-12 <--  
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
 RO SE SI  
 NZ 516634 A 20030228 (200323) A01N033-12 <--  
 ZA 2002000360 A 20030625 (200348) 25 A01N000-00  
 EP 1194038 B1 20030924 (200363) EN A01N033-12 <--  
 R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE  
 MX 2002000581 A1 20030701 (200366) A01N025-30 <--  
 DE 60005514 E 20031030 (200379) A01N033-12 <--  
 AU 768264 B 20031204 (200382) A01N033-12 <--  
 ES 2207533 T3 20040601 (200437) A01N033-12 <--

ADT WO 2001005227 A1 WO 2000-EP6234 20000703; AU 2000062680 A AU  
 2000-62680 20000703; BR 2000012518 A BR 2000-12518 20000703, WO  
 2000-EP6234 20000703; EP 1194038 A1 EP 2000-949250 20000703, WO  
 2000-EP6234 20000703; NZ 516634 A NZ 2000-516634 20000703, WO  
 2000-EP6234 20000703; ZA 2002000360 A ZA 2002-360 20020115; EP  
 1194038 B1 EP 2000-949250 20000703, WO 2000-EP6234 20000703; MX  
 2002000581 A1 WO 2000-EP6234 20000703, MX 2002-581 20020116; DE  
 60005514 E DE 2000-00005514 20000703, EP 2000-949250 20000703, WO  
 2000-EP6234 20000703; AU 768264 B AU 2000-62680 20000703; ES 2207533  
 T3 EP 2000-949250 20000703

FDT AU 2000062680 A Based on WO 2001005227; BR 2000012518 A Based on WO  
 2001005227; EP 1194038 A1 Based on WO 2001005227; NZ 516634 A Based on WO  
 2001005227; EP 1194038 B1 Based on WO 2001005227; MX 2002000581 A1 Based  
 on WO 2001005227; DE 60005514 E Based on EP 1194038, Based on WO  
 2001005227; AU 768264 B Previous Publ. AU 2000062680, Based on WO  
 2001005227; ES 2207533 T3 Based on EP 1194038

PRAI EP 1999-202342 19990716

IC ICM A01N000-00; A01N025-30; A01N033-12

ICS A01N033-08; A01N059-00; A01N059-06; A01N059-16

ICI A01N025:30; A01N033-12, A01N033:08,  
 A01N059:00, A01N059:06, A01N059:16; A01N033-12,  
 A01N033:08, A01N059:00, A01N059:06, A01N059:16;  
 A01N025:30; A01N033-12; A01N033:08;  
 A01N059:00; A01N059:06; A01N059:16

AB WO 200105227 A UPAB: 20010410

NOVELTY - A composition for breaking rest in deciduous fruit species comprises an organic nitrogen-containing compound with a molecular weight of 60 to 300Da (except for urea and dinitro-ortho-cresol), an inorganic nitrate rest-breaking agent and a surfactant.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the

use of the composition for breaking the rest in deciduous fruit species.

USE - The composition is useful for breaking the rest in deciduous fruit species, e.g. species bearing pears, peaches, apricots, plums, cherries, grapes, kiwis, nectarines or almonds, particularly apple and grape species.

ADVANTAGE - The composition is highly effective and less toxic than the most effective compositions known in prior art, allowing their use to be eliminated. The composition breaks rest in a manner which is safe for the crops and without the treatment having any long-term phytotoxic effects. The use of the composition causes less harm to beneficial insects, is environmentally acceptable, is non-hazardous to operators of the application equipment, and non-corrosive to the equipment.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: A10-E19; A12-W04; C05-A01A; C05-A01B; C05-A03A; C05-C01;  
C05-C02; C10-A13C; C10-A22; C12-M09;  
C14-U01

TECH UPTX: 20010410

TECHNOLOGY FOCUS - AGRICULTURE - Preferred Compounds: The nitrogen-containing compound is a (2-hydroxyethyl)-tri-(1-3C **alkylammonium** salt), a (2-hydroxypropyl)-tri-(1-3C **alkylammonium** salt) and/or a (2-hydroxybutyl)-tri-(1-3C **alkylammonium** salt). The surfactant is an alkoxyated amine or alkoxyated quaternary **ammonium** compound. Preferred Fruit Species: The deciduous fruit species is apple or grape species.

ABEX UPTX: 20010410

SPECIFIC COMPOUNDS - The rest-breaking agent is potassium nitrate, calcium nitrate, **ammonium** nitrate, calcium **ammonium** nitrate, urea **ammonium** nitrate and/or zinc **ammonium** nitrate. The organic nitrogen-containing compound is particularly **choline** chloride.

EXAMPLE - A typical composition contained alkoxyated amine surfactant (1.5%), 75% **choline** chloride (6.6%) and aqueous calcium nitrate and urea **ammonium** nitrate solution (3%). The composition was applied to Golden Delicious trees and bud break was assessed as 38% at the start, and three weeks later as 60%. Comparative values for the prior art rest-breaking composition containing 6% dinitro-ortho-cresol formulated in oil (DNOC/oil) was 17 to 52% and for 0.5% Dormex, 2% BP oil (hydrogen cyanamide/oil) was 13 to 36%. These results indicated the synergistic effect of the combination of **choline** chloride, i.e. an organic nitrogen containing compound, a mixture of calcium nitrate and urea **ammonium** nitrate, i.e. inorganic nitrate rest-breaking agents, and an alkoxyated amine, i.e. a surfactant, and the improvement over the prior art rest-breaking compositions.

L121 ANSWER 8 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2000-075300 [07] WPIX

DNC C2000-021823

TI Herbicide composition useful as plant growth controlling type agent - comprises N-(phosphonomethyl)glycine and e.g. magnesium salt of organic acid and wettable and dispersible surfactants.

DC C01

PA (SANY) SANKYO CO LTD

CYC 1

PI JP 11302116 A 19991102 (200007)\* 11 A01N057-20

ADT JP 11302116 A JP 1998-112905 19980423

PRAI JP 1998-112905 19980423

IC ICM A01N057-20

ICS A01N025-04; A01N025-30; A01N037-02; A01N037-08; A01N037-10;  
A01N037-44; A01N059-06

AB JP 11302116 A UPAB: 20000215  
 Herbicide composition comprises (a) 0.01-20.0 weight% of N-(phosphonomethyl)glycine or its salts, (b) 0.1-20.0 weight% of a compound selected from magnesium salt, barium salt, aluminium salt and calcium salt of an organic acid selected from lactic acid, propionic acid, formic acid, acetic acid, levulinic acid, benzoic acid, citric acid, alginic acid, L-(+)-ascorbic acid and salicylic acid (provided that magnesium acetate and calcium acetate are excluded), magnesium ethoxide, aluminium acetylacetate, aluminium nitrate, calcium phosphinate, **ammonium** aluminium sulphate and potassium sulphate, (c) 0.1-10.0 weight% of a wettable surfactant, (d) 0.1-10.0 weight% of a dispersible surfactant, (e) water and optionally (f) 0.01-30.0 weight% of maleic acid hydrazide or its salts and optionally (g) a thickener.

USE - The herbicide composition is an aqueous suspension and useful as a plant growth controlling type agent. It is useful for inclined ground or a border of a paddy field where the weed is expected to support the ground and prevents collapse.

ADVANTAGE - The herbicide composition can control the growth of a plant without killing the plant.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: C03-F; C04-C02D; C05-A01A; C05-A01B; C05-B01G; C05-B02A3;  
**C05-C01; C05-C02; C10-A19; C10-C02; C10-C03;**  
 C10-C04C; C10-C04D; C10-C04E; C10-H01; **C12-M09;**  
**C14-U01E; C14-V02**

L121 ANSWER 9 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1998-035493 [04] WPIX

DNN N1998-028525 DNC C1998-012019

TI Plant nutrient formulation useful in hydroponics - comprises surfactant, secondary, tertiary or hydroxylated amine and/or branched chain amino compound.

DC C04 P13

IN RUSSELL, M J

PA (HYDR-N) HYDROCORP PTY LTD

CYC 3

PI GB 2314557 A 19980107 (199804)\* 16 C05G003-06

AU 9726239 A 19980115 (199809) C05G003-00

CA 2208922 A 19971227 (199825) C05C011-00

ADT GB 2314557 A GB 1997-13282 19970625; AU 9726239 A AU 1997-26239 19970625;

CA 2208922 A CA 1997-2208922 19970626

PRAI AU 1996-688 19960627

IC ICM C05C011-00; C05G003-00; C05G003-06

ICS A01G031-00; C05B015-00; C05D011-00; C05G003-02

AB GB 2314557 A UPAB: 19980126

Plant nutrient formulation (A) comprises a synergistic mixture of a surfactant (I) with a secondary, tertiary or hydroxylated amine (II) and/or a branched chain amino compound (III), together with plant nutrients and additives. Also claimed is a plant nutrient composition (B) comprising magnesium sulphate (IV) and a calcium salt (V) selected from calcium glycerophosphate (Va) and/or calcium hypophosphite (Vb), together with plant nutrients and additives.

USE - The formulations are particularly useful in hydroponics (claimed), as well as in broader agricultural and horticultural areas.

ADVANTAGE - The formulations improve the efficiency of delivery of nutrients to plants. In a hydroponics situation, lower concentrations of feedstock can be used and there is a lower run-off of waste. There is a decreased risk of disease or foliar damage e.g. tipburn.

Dwg.0/0

FS CPI GMPI

FA AB; DCN

MC CPI: C05-A01A; C05-A01B; C05-B01P; C05-B02A3; **C05-C01;**

C05-C02; C05-C05; C10-A22; C10-B02J; C14-S09;  
C14-U01C; C14-U01D

L121 ANSWER 10 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1997-372503 [34] WPIX

DNC C1997-119982

TI Breaking the rest in deciduous fruit trees e.g. apple trees to improve fruit yield and quality - by using inexpensive, non-toxic combination of nitrate compound e.g. calcium nitrate, and alkoxylated amine, quat ammonium or amine oxide compound.

DC A97 C03 P13

IN BUTSELAAR, R J

PA (ALKU) AKZO NOBEL NV

CYC 75

PI WO 9724926 A1 19970717 (199734)\* EN 28 A01N033-08 <--  
RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD  
SE SZ UG  
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE  
HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX  
NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN

ZA 9700024 A 19970923 (199744) 25 A01G000-00

AU 9713083 A 19970801 (199748) A01N033-08 <--

ADT WO 9724926 A1 WO 1996-EP5880 19961220; ZA 9700024 A ZA 1997-24 19970102;

AU 9713083 A WO 1996-EP5880 19961220, AU 1997-13083 19961220

FDT AU 9713083 A Based on WO 9724926

PRAI EP 1996-200018 19960104

REP US 4001002; WO 9423574; WO 9601049

IC ICM A01G000-00; A01N033-08

ICS A01N033-12; A01N033-24; A01N059-00; A01N059-06;

A01N059-16; C05G000-00

AB WO 9724926 A UPAB: 19970820

Breaking the rest in deciduous fruit trees, involves applying to the tree before blossom, (A) at least one rest-breaking agent selected from calcium nitrate, ammonium nitrate, calcium ammonium nitrate, urea ammonium nitrate and zinc ammonium nitrate; and

(B) at least one of alkoxylated amines of formula (I)  $R-N(R_1)-(AO)NR_3$  and alkoxylated quat. ammonium compounds of formula (II). In the formulae, R = 8-22C alkyl, 8-22C alkenyl or  $-(CH_2)_x-N(R_2)-(A10)mR_3$ ; R1 = H, 1-22C alkyl, 2-22C alkenyl or  $-(A20)yR_3$ ; R2 = 8-22C alkyl; R3 = H, 1-8C alkyl, 1-8C alkenyl or up to 8C aryl; A, A1 and A2 = alkylene; n, m and y = 1-50; x = 1-6; X- = anion; R4 =  $-(CH_2)_x-N+(R_2)(R_5)-(A10)mR_3$ .X-; R5 = H, 1-4C alkyl, 2-4C alkenyl or benzyl; or R5X- = carboxymethyl or O.

Also claimed is a composition for use as above comprising (A) and

(B).

USE - The combination of (A) and (B) is useful as chemical rest-breaking agent for advancing the time of bloom, bud-break and/or leaf cover and fruit set and for reducing symptoms of delayed foliation in fruit (e.g. apple, pear, peach, apricot, nectarine, plum, cherry or kiwi) trees in regions having mild winter weather conditions, and thus improves the yield and quality of fruit.

ADVANTAGE - Component (B) enhances the activity of the known rest-breaking agents (A), to provide an inexpensive, low-toxicity rest-breaking combination which is effective at low concentrations. The treatment is safe to the crops, causes no long-term phytotoxic effects on the plants and is relatively harmless to beneficial insects, environmentally acceptable, non-hazardous to operators and non-corrosive to equipment.

Dwg.0/0

FS CPI GMPI

FA AB; GI; DCN

MC CPI: A10-E19; A12-W04B; C05-A01B; C05-A03A; C05-C02; C10-B04B;

C14-U01

L121 ANSWER 11 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 1991-273698 [37] WPIX  
 DNC C1991-118625  
 TI Coated fertiliser particulates preparation - by mixing prills and nutrients, blending etc. then using low temps. to incorporate biologically active agents.  
 DC C04  
 IN DAVIS, B G  
 PA (DAVI-I) DAVIS B G  
 CYC 1  
 PI US 5043007 A 19910827 (199137)\*  
 ADT US 5043007 A US 1990-467331 19900119  
 PRAI US 1983-506860 19830622; US 1986-867594 19860527;  
 US 1987-124361 19871123; US 1988-236320 19880825;  
 US 1990-467331 19900119  
 IC A01N043-08; A01N059-00  
 AB US 5043007 A UPAB: 19930928  
 Preparation comprises (a) preparing a mixture of fertiliser ; plant nutrients of  
 K and/or N yielding cpds.; more plant nutrient metallic salts; and water to form a slurry; (b) blending the mixture at 115-140 deg. F to form a slurry; (c) passing the slurry through an elongated cylindrical drying zone of length:dia ratio 5:1, at 140-150 deg. F in the first half of the zone and allowing to cool at ambient temperature while passing through the second half of the zone; and (d) recovering particulate fertiliser consisting of prills coated with a mixture of nutrients and metallic salts.  
 USE/ADVANTAGE - Granular or semigranular fertiliser is obtd. which retains the integrity over an extended shelf life. Binder-free folial fertiliser may be obtd., which is absorbed by the plant relatively quickly. The fertiliser may incorporate biologically active agents, since the process utilises a low temps.  
 O/O  
 FS CPI  
 FA AB; DCN  
 MC CPI: C04-B02A; C05-A01A; C05-A01B; C05-A03A; C05-B02C; C05-C01;  
 C05-C02; C06-D09; C10-A10; C10-A22; C10-C04A;  
 C10-C04C; C12-M11D; C12-N09; C12-P01

L121 ANSWER 12 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 1990-284305 [38] WPIX  
 DNN N1990-219225 DNC C1990-122726  
 TI Production of potato micro-tubers - by inducing micro tuberogenic shoots from virus-free potatoes in artificial culture medium.  
 DC C03 D16 P11 P13  
 IN HONG, J; JEON, J; JOUNG, H; KOO, J; LEE, H; LIU, J; YANG, S; HONG, C; HYOUK, J; JANG-RYOL, L; JOO-BONG, H; HONG, J B; JJEON, J H; KOO, J S; LEE, H S; LIU, J R; YANG, S G; JEONG, H; YU, J  
 PA (KOAD) KOREA ADV INST SCI & TECHN; (KOAD) KIST KOREA INST SCI & TECHNOLOGY; (KANK-N) KANKOKU KAGAKU GIJUTSUIN; (KOSC-N) KOREA INST SCI TECH; (KOAD) KOREA ADV INST SCI & TECHNOLOGY  
 CYC 20  
 PI EP 388109 A 19900919 (199038)\* 17  
 R: AT BE CH DE ES FR GB GR IT LI LU NL SE  
 AU 9051166 A 19900920 (199045)  
 CA 2011230 A 19900910 (199048)  
 CN 1045906 A 19901010 (199125)  
 JP 03195427 A 19910827 (199140)  
 KR 9201196 B 19920206 (199301) A01H004-00  
 AU 639907 B 19930812 (199339) A01H005-06  
 EP 388109 B1 19950315 (199515) EN 15 A01H004-00  
 R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE  
 DE 69017732 E 19950420 (199521) A01H004-00  
 ES 2070274 T3 19950601 (199528) A01H004-00

CN 1024886 C 19940608 (199530) A01H004-00  
 RU 2075289 C1 19970320 (199742) 13 A01H004-00  
 CA 2011230 C 19990323 (199930) C12N005-04  
 ADT EP 388109 A EP 1990-302587 19900312; JP 03195427 A JP 1990-56805 19900309;  
 KR 9201196 B KR 1989-3009 19890311; AU 639907 B AU 1990-51166 19900309; EP  
 388109 B1 EP 1990-302587 19900312; DE 69017732 E DE 1990-617732 19900312,  
 EP 1990-302587 19900312; ES 2070274 T3 EP 1990-302587 19900312; CN 1024886  
 C CN 1990-101337 19900310; RU 2075289 C1 SU 1990-4743496 19900307; CA  
 2011230 C CA 1990-2011230 19900301  
 FDT AU 639907 B Previous Publ. AU 9051166; DE 69017732 E Based on EP 388109;  
 ES 2070274 T3 Based on EP 388109  
 PRAI KR 1989-3009 19890311  
 REP NoSR.Pub; 2.Jnl.Ref; EP 293488; FR 2610785; WO 8802213; WO 8804137  
 IC ICM A01H004-00; A01H005-06; C12N005-04  
 ICS A01C001-00; C12N005-00  
 AB EP 388109 A UPAB: 19930928  
 The following are claimed: (A) a process for producing potato microtubers  
 which comprises inducing microtuberogetic shoots from virus-free potatoes  
 in a culture medium (I) comprising: 2,000 mg/l NH<sub>4</sub>NO<sub>3</sub>, 2,500 mg/l KNO<sub>3</sub>,  
 440 mg/l CaCl<sub>2</sub>.2H<sub>2</sub>O, 370 mg/l MgSO<sub>4</sub>.7H<sub>2</sub>O, 170 mg/l K<sub>3</sub>PO<sub>4</sub>, 37.25 mg/l  
 disodium EDTA, 27.85 mg/l FeSO<sub>4</sub>.7H<sub>2</sub>O, 16.9 mg/l MnSO<sub>4</sub>.H<sub>2</sub>O, 6.2 mg H<sub>3</sub>BO<sub>3</sub>,  
 8.6 mg/l ZnSO<sub>4</sub>.7H<sub>2</sub>O, 0.83 mg/l KI, 0.25 mg/l sodium molybdate.2H<sub>2</sub>O, 0.025  
 mg/l CuSO<sub>4</sub>.5H<sub>2</sub>O, 0.025 mg/l CoCl<sub>2</sub>.6H<sub>2</sub>O, staba vitamins complex comprising  
 1.5 mg/l cyanocobalmin, 0.5 mg/l folic acid, 0.5 mg/l riboflavin, 1 mg/l  
 biotin, 1 mg/l **choline** chloride, 1 mg/l calcium pantothenate, 1  
 mg/l thiamine, HCl 2 mg/l nicotinamide, 2 mg/l pyridoxine, HCl and 0.5  
 mg/l p-aminobenzoic acid, 100 mg/l myo-inositol, 50 mg/l ascorbic acid,  
 0.1 mg/l gibberellic acid, 0.1 mg/l zeatin riboside, 20,000 mg/l sucrose  
 and 10,000 mg/l agar; (B) a process for culturing virus-free potatoes in a  
 suitable medium to produce horizontal axillary shoots; (C) a process for  
 producing potato microtubers which comprises inducing shoots to  
 proliferate in a culture medium in the presence of a growth inhibitor such  
 as phosphon D, Amo-1618, B-905 or **chlorocholine** chloride.  
 USE/ADVANTAGE - Using the methods it is possible to mass-produce  
 artificial seed potatoes more than 30 times as efficiently as by known  
 methods of microtuber production  
 0/5  
 FS CPI GMPI  
 FA AB; DCN  
 MC CPI: C03-L; C04-A07D5; C04-B02A; C04-C02D; C05-A01A; C05-A01B; C05-A03;  
 C05-B01F; C05-B02A3; C05-B02C; **C05-C01**; **C05-C02**;  
 C05-C07; C06-F03; C07-A02; C07-D04C; C07-D05; C10-A07;  
**C10-A22**; C10-B01B; C10-B02A; C10-C04A; C10-E04A; C12-N08;  
**C12-P09**; D05-H01; D05-H08  
 ABEQ EP 388109 B UPAB: 19950425  
 A process for the production of virus-free potato microtubers, which  
 comprises inducing micro-tuberogetic shoots from virus-free potatoes to  
 proliferate in a culture medium; treating the shoots in the light; and  
 then culturing the treated shoots in a solid microtuber induction medium;  
 characterised in that the culture medium has the compsn. given in Table 1,  
 and that the shoots are treated in the light at an elevated temp. followed  
 by treatment in the dark at a low temp.  
 Dwg.0/5  
 L121 ANSWER 13 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 1985-046638 [08] WPIX  
 DNC C1985-020327  
 TI Herbicidal compsn. based on butyl carbamate derivative - contains acid  
 substance and/or anionic surfactant as stabiliser.  
 DC C03  
 PA (SHOW) SHOWA DENKO KK  
 CYC 1  
 PI JP 60004110 A 19850110 (198508)\* 3

ADT JP 60004110 A JP 1983-111045 19830622

PRAI JP 1983-111045 19830622

IC A01N025-22; A01N047-30

AB JP 60004110 A UPAB: 19930925

Composition comprises as active agent 3-(3,3-dimethylureid) phenyl-t-butyl carbamate (I) and acid substances (II) and/or anionic surfactants (III) as stabilisers. (III) include, e.g. mineral acids such as hydrochloric acid, phosphoric acid, sulphuric acid, nitric acid, etc., organic acids such as acetic acid, propionic acid, citric acid, oxalic acid, etc., strong acid salts of alkaline earth metals such as  $MgCl_2$ ,  $CaCl_2$ , etc. (III) contain sulphate or sulphite gps. and include e.g. Na alkylsulphate, Na alkylbenzene sulphonate, sodium alkyl-naphthalene-sulphonate, Na alkyl-naphthalene sulphonate, or naphthalene-sulphonic acid-formaldehyde condensates.

USE/ADVANTAGE - The decomposition of (I) is eliminated. Compsn. is formulated in the form of granules, etc. as a mixture with mineral carriers (e.g. bentonite, talc, clay, diatomaceous earth, zeolite, kaolin, acid clay, etc.)

0/0

FS CPI

FA AB

MC CPI: C05-A01B; C05-B02A3; C05-C02; C05-C05; C05-C07; C10-A12C; C10-C02; C10-C04E; C12-M09; C12-M11; C12-P05

L121 ANSWER 14 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1984-213065 [34] WPIX

CR 1984-146232 [23]

DNC C1984-089454

TI Liquid ammonium nitrate and biocide compsn. - with polyoxy-alkylene ester surfactant as dispersant.

DC A97 C03 C04

IN DUTTON, D R; KANEKO, T M; KIM, B

PA (BADI) BASF WYANDOTTE CORP

CYC 1

PI US 4464193 A 19840807 (198434)\* 7

ADT US 4464193 A US 1981-289715 19810803

PRAI US 1980-122209 19800219; US 1981-289492 19810803;

US 1981-289715 19810803

IC A01N059-00

AB US 4464193 A UPAB: 19930925

Liquid fertiliser-biocide compsn. comprises (1) aqueous  $NH_4NO_3$  (opt. with urea) containing 20-50 weight% solid; and (2) a dispersion of a liquid biocide (I)

in the

aqueous  $NH_4NO_3$ .

For production of the dispersion an emulsifiable concentrate comprising 90-99 weight% (I) and 1-10 weight% of polyoxyalkylene ester surfactant (II) is used. (II) is the reaction prod. of a polybasic acid or anhydride with a polyoxyalkylene glycol ethoxylate of formula (III)  $Y((A)n-(C_2H_4O)m-H)x$  (III) A=4C alkylene oxide selected from oxybutylene and THF residue; Y=initiator having up to 20C and containing only C, H, O and N; x = 2 or higher integer; n=integer so that molecular weight is 1000-2500; m=integer such that oxyethylene content of entire cpd. (mx gps.) forms 20-80 weight% of the total oxyethylene content. (II) may be used with an anionic alkaryl S- or P-containing ester surfactant of HLB at least 15.

USE/ADVANTAGE - Compsn. in an aqueous diluent provides a stable emulsion even under the adverse ionic conditions provided by the fertiliser salt.

(I) includes herbicides and insecticides.

0/0

FS CPI

FA AB

MC CPI: A10-E07; A12-W04; C04-C03C; C05-C01; C05-C02; C12-M07; C12-M09; C12-N02; C12-N09; C12-P06



L121 ANSWER 15 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1983-11619K [05] WPIX

DNC C1983-011398

TI Cotton plant pre-harvesting defoliation - by treating with aqueous solution containing magnesium chlorate and calcium nitrate or urea.

DC C03

IN NABIEV, M N; SHAMMASOV, R Z; TUKHTAEV, S

PA (AUZC) AS UZB CHEM INST

CYC 1

PI SU 915828 B 19820330 (198305)\* 3

PRAI SU 1980-2922421 19800505

IC A01N033-18

AB SU 915828 B UPAB: 19930925

Compsn. for defoliating cotton plant prior to mechanical harvesting comprises (in pts. weight): magnesium chlorate (I) 6-8 and water-soluble nitrate salt (pref. Ca nitrate (II) or urea 10-15.

Use of the above. amts. of nitrate or urea as defoliant modifier reduces losses of cotton during harvesting, improves solubility of magnesium chlorate in water and simplifies and accelerates defoliant mfr. Typically 6kg (I) and 10kg (II) in 50l water are diluted to 100 l solution and the mixture is used for treatment of 1 ha of cotton plant field.

Bul.12/30.3.81.

FS CPI

FA AB

MC CPI: C05-A01B; C05-C02; C10-A13C; C12-P02

L121 ANSWER 16 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1977-50137Y [28] WPIX

TI Fertilising conifer forests with foliar sprays - containing high concentration of

water-soluble nitrogenous fertiliser.

DC C04

PA (UNOC) UNION OIL CO CALIFORNIA

CYC 1

PI US 4033747 A 19770705 (197728)\*

PRAI US 1970-57810 19700723; US 1972-259231 19720602;

US 1973-378550 19730702; US 1974-494613 19740805;

US 1976-654997 19760204

IC C05C001-00; C05C009-00

AB US 4033747 A UPAB: 19930901

Conifer forests are fertilised by direct foliar application of an aqueous nitrogenous fertiliser, by spraying with an aqueous spray containing 15-32

weight % N

in water-soluble form, i.e. urea; NH<sub>3</sub>; NH<sub>4</sub>, Ca or K nitrates, and/or NH<sub>4</sub> phosphates or sulphates. The dosage level is 15-350 lbs. of N per acre of forest and 0.8-12 lbs. N per 1000 sq. m. of exposed specific foliage area.

Pref. the solution also contains 0.1-2.5 weight % surfactant and the

amount

of spray applied is insufficient to cause any appreciable drainage of the solution from the foliage.

Foliar feeding provides maximum utilisation of nutrients by the trees and min. contamination of ground waters. The treatment can be made at any time of the year and although concentrate solns. are used there is little

foliar

damage (that which does occur is mainly an older growth so this can result in selective pruning).

FS CPI

FA AB

MC CPI: C05-A01A; C05-A01B; C05-B02A4; C05-C01; C05-C02;  
C10-A13C; C12-M09; C12-N09; C12-P09

L121 ANSWER 17 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1976-18096X [10] WPIX

TI Cultivation of seedless grapes - using mixt of gibberellin, naphthalene- and indole- acetic acid series auxins, nitrogen, surfactants and water.  
 DC C03 P13  
 PA (FUKA-I) FUKAZAWA I  
 CYC 1  
 PI JP 51003651 B 19760205 (197610)\*  
 PRAI JP 1968-39578 19680610; JP 1971-83970 19710325  
 IC A01G017-02; A01N005-00  
 AB JP 76003651 B UPAB: 19930901  
 A compsn. for cultivating seedless grapes comprises a mixture of gibberellin (I), naphthalene acetic acid series auxin, indolacetic acid series auxin, nitrogen, penetrating surfactants and water, the concentration of (I) being 5-10 ppm. The compsn. gives a high degree of sugar, low acid concentration and excellent taste of conventional compsns.  
 FS CPI GMPI  
 FA AB  
 MC CPI: C04-B02A; C05-C01; C05-C02; C10-A13C; C10-E04B; C12-C09; C12-M09; C12-P09

L121 ANSWER 18 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 1972-60400T [38] WPIX  
 TI Defoliant and desiccant compsns - contg ammonium nitrate, sulphate, and/or chloride solns contg a thiosulphate.  
 DC C03  
 PA (UNOC) UNION OIL CO  
 CYC 1  
 PI US 3689246 A (197238)\*  
 PRAI US 1964-421688 19641228; US 1966-577827 19660908;  
 US 1969-802648 19690226  
 IC A01N005-00; A01N011-02  
 AB US 3689246 A UPAB: 19930831  
 Application of title solns. to a variety of plants (cotton, potatoes, sugar beet, pineapple, grapes etc) causes a high degree of desiccation and sometimes defoliation but does not leave toxic residues. Method uses an aqueous soln containing (a) 15-65 weight% of (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, NH<sub>4</sub>Cl and/or NH<sub>4</sub>NO<sub>3</sub>, pref. NH<sub>4</sub>NO<sub>3</sub> opt. together with NH<sub>4</sub>Cl; and (b) 5-50 weight% of an alkali(ne earth) metal thiosulphahte or pref. (NH<sub>4</sub>)<sub>2</sub>S<sub>2</sub>O<sub>3</sub>. Opt. solution may also contain a surfactant. Total concentration of salts (a) and (b) is 20-80 weight%.  
 Solution is applied to plants to provide 45-250 lb of salts/acre.  
 FS CPI  
 FA AB  
 MC CPI: C05-C01; C05-C02; C05-C05; C12-M09; C12-P02

L121 ANSWER 19 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 1967-08644G [00] WPIX  
 TI Improving the stability of cereal crops.  
 DC C00  
 PA (OSTS) LENTIA GMBH  
 CYC 1  
 PI DE 1238052 B (196800)\*  
 PRAI AT 1960-9379 19601215  
 AB DE 1238052 B UPAB: 19930831  
 Increasing the rigidity of cereal plants and prevention of their tendency to lie flat on the ground by fertilising them with solid or liquid, organic or inorganic nitrogenous fertiliser (I) contng. 5-15% (based on the N-content of the fertiliser) of a salt (II) of a ammonium base (Me<sub>3</sub>NR)+OH- (where R = Et, vinyl, allyl or a saturated or unsatd. halogen-subst. C1-3 hydrocarbon residue) with an acid which is non-phytotoxic to cereals.

Application of (I) contng. a salt (II) with the top-dressing at the beginning of the vegetative period causes cereals to have shorter and stronger stems without negatively affecting the development of the ears. The plants are consequently more rigid and have less tendency to lie flat on the ground than untreated plants.

FS CPI

FA AB

MC CPI: C05-C01; C05-C02; C10-A13B; C10-A22;  
C12-P01

=> d his

(FILE 'HOME' ENTERED AT 13:49:36 ON 09 SEP 2004)  
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 13:49:52 ON 09 SEP 2004

L1 1 S (WO2000-EP6234 OR EP99-202342)/AP,PRN  
SEL RN

FILE 'REGISTRY' ENTERED AT 13:50:38 ON 09 SEP 2004

L2 9 S E1-E9  
L3 5 S (POTASSIUM NITRATE OR CALCIUM NITRATE OR AMMONIUM NITRATE OR  
L4 2 S 6484-52-2/CRN AND ZN/ELS  
L5 1 S L4 NOT SZNSC/ES  
L6 7 S L2 AND HNO3  
L7 8 S L3,L5,L6  
L8 1 S 7697-37-2  
L9 12265 S 7697-37-2/CRN  
L10 221 S L9 AND K/ELS  
L11 3 S L10 AND 2/NC  
L12 141 S L9 AND CA/ELS  
L13 4 S L12 AND 2/NC  
L14 2 S L13 NOT GLYCINATO  
L15 404 S L9 AND H3N  
L16 15 S L15 AND 2/NC  
L17 10 S L16 NOT (D/ELS OR MNS/CI OR 15N)  
L18 7 S L15 AND ZN/ELS  
L19 6 S L18 NOT S/ELS  
L20 127 S CH4N2O AND L9  
L21 127 S 57-13-6/CRN AND L20  
L22 54 S L21 AND NR>=1  
L23 73 S L21 NOT L22  
L24 23 S L23 AND L10,L12,L15  
L25 6 S L23 AND ZN/ELS  
L26 13 S L24 NOT (CYANO? OR UNSPECIFIED OR NA/ELS OR P/ELS OR FE/ELS O  
L27 45 S L23 NOT L24-L26  
L28 28 S L27 AND 2-3/NC  
L29 25 S L28 NOT (GUANIDINE OR ETHANEDIOATE OR P/ELS)  
L30 17 S L27 NOT L28  
L31 12 S L30 NOT (CELLULOSE OR GUANIDINE OR S/ELS OR P/ELS OR MAN/CI)  
L32 77 S L7,L8,L11,L14,L17,L19,L25,L26,L29,L31

FILE 'HCAPLUS' ENTERED AT 14:08:03 ON 09 SEP 2004

L33 81990 S L32  
L34 38667 S (POTASSIUM OR CALCIUM OR AMMONIUM OR CALCIUM AMMONIUM OR UREA  
L35 26227 S KNO3 OR CANO3 OR NH3NO3  
L36 106808 S L33-L35  
L37 1953 S L36 AND SURFACTANT  
L38 14 S L36 AND ALKOXYLAT? (L) AMINE  
L39 4 S L36 AND QUAT? AMMON? (L) ALKOXYLAT?  
L40 11 S L36 AND (ARMOBLEN OR ARMOBREAK OR BEROL)

L41           E AMINE/CW  
           7 S E3,E4 (L) ALKOXYLAT? AND L36  
           E QUAT AMMON/CT  
 L42           2 S E10 (L) ALKOXYLAT? AND L36  
 L43           23 S L38-L42  
 L44           12 S L43 AND (AGR? OR FERTIL? OR SOIL?)/SC,SX  
 L45           11 S L43 AND AGR/RL  
           E AMIDE/CW  
 L46           3 S E3,E4 (L) ALKOXYLAT? AND L36  
 L47           25 S L43-L46  
 L48           12 S L47 AND (AGR? OR FERTIL? OR SOIL? OR PLANT?)/SC,SX  
 L49           11 S L47 AND AGR/RL  
 L50           12 S L48,L49  
 L51           691 S L36 AND QUAT? AMMON?  
           E QUATERNARY AMMON/CT  
 L52           1605 S E7+OLD,NT,PFT,RT AND L36  
 L53           3439 S L51,L52,L37  
 L54           147 S L53 AND AGR/RL  
 L55           354 S L53 AND (SOIL? OR PLANT? OR FERTIL? OR AGR?)/SC,SX  
 L56           361 S L54,L55,L50  
 L57           21 S L56 AND ?CHOLINE?  
 L58           7 S L56 AND CHOLINE CHLORIDE  
 L59           0 S L56 AND CHOLINE()CL  
 L60           1 S L56 AND 2 HYDROXYETHYL TRIMETHYLAMMONIUM  
 L61           0 S L56 AND 2 HYDROXYETHYL TRIMETHYL AMMONIUM  
 L62           0 S L56 AND 2 HYDROXY ETHYL TRIMETHYL AMMONIUM  
 L63           0 S L56 AND 2 HYDROXY ETHYL TRIMETHYLAMMONIUM  
 L64           0 S L56 AND 2 HYDROXY ETHYLTRIMETHYLAMMONIUM

FILE 'REGISTRY' ENTERED AT 14:18:04 ON 09 SEP 2004

L65           2 S 62-49-7 OR 67-48-1  
 L66           1010 S 62-49-7/CRN

FILE 'HCAPLUS' ENTERED AT 14:19:17 ON 09 SEP 2004

L67           57 S L65,L66 AND L53  
 L68           10 S L56 AND L67  
 L69           24 S L57,L58,L60,L68  
 L70           47 S L67 NOT L69  
           SEL DN AN L69 2 7-13 18  
 L71           15 S L69 NOT E1-E27  
 L72           10 S L50 NOT L69  
 L73           25 S L71,L72  
           E MACDONALD B/AU  
 L74           34 S E3,E14  
 L75           7 S E40,E47  
           E MAC DONALD B/AU  
 L76           3 S E3  
           E WORKEL H/AU  
 L77           8 S E4,E5  
 L78           1 S L74-L77 AND L53  
 L79           8 S (AKZO? OR NOBEL?)/PA,CS AND L53  
           SEL DN AN 2 3 6 7 8  
 L80           3 S L79 NOT E1-E15  
 L81           25 S L73,L78,L80  
 L82           7 S L81 AND REST BREAK?  
 L83           9 S L81 AND BREAK?  
 L84           9 S L82,L83  
 L85           25 S L81,L84  
 L86           18 S L85 AND (PD<=20000703 OR PRD<=20000703 OR AD<=20000703)  
 L87           7 S L85 NOT L86  
 L88           92 S L53 AND ?ETHYLENEDIAMIN?  
 L89           98 S L53 AND ?ALKYLAMMON?  
 L90           189 S L88,L89

L91 159 S L90 AND (PD<=20000703 OR PRD<=20000703 OR AD<=20000703)  
L92 3 S L91 AND L56  
L93 2 S L92 NOT 47/SC  
L94 20 S L86,L93  
L95 156 S L91 NOT L92  
L96 27 S L94,L85-L87  
SEL HIT RN

FILE 'REGISTRY' ENTERED AT 14:31:32 ON 09 SEP 2004  
L97 14 S E16-E29

FILE 'HCAPLUS' ENTERED AT 14:32:00 ON 09 SEP 2004

FILE 'WPIX' ENTERED AT 14:32:56 ON 09 SEP 2004  
L98 1 S L1  
L99 2585 S C05-C02/MC  
L100 42 S L99 AND C12-M09/MC  
L101 35 S L99 AND C10-A22/MC  
L102 7 S L99 AND A01N025-30/IPC  
L103 19 S L99 AND A01N033/IPC  
L104 88 S L100-L103  
L105 6 S L104 AND C14-U01/MC  
L106 2 S L104 AND C12-P01/MC  
L107 11 S L104 AND C14-U?/MC  
L108 9 S L104 AND C12-P?/MC  
L109 20 S L105-L108  
L110 3 S L109 AND ?CHOLIN?/BIX  
L111 0 S L109 AND ?ETHYLENEDIAMIN?/BIX  
L112 11 S L109 AND ?AMMON?/BIX  
L113 15 S L109 AND C05-C01/MC  
L114 17 S L110,L112,L113  
L115 3 S L109 NOT L114  
L116 16 S L114 NOT ICING  
L117 19 S L115,L116  
L118 68 S L104 NOT L109  
L119 28 S L118 AND A01N/IPC  
L120 6 S L119 NOT (MITE OR INSECT? OR FUNG? OR PESTIC? OR HERBICID? OR  
L121 19 S L98,L117

FILE 'WPIX' ENTERED AT 14:48:09 ON 09 SEP 2004

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